Issue 59
PS
1957 Series
THE PREVENTIVE MAINTENANCE MONTHLY
HERE LIES THE COURIER WHO...
WAS DELAYED 'CAUSE HIS HORSE THREW A SHOE.
'TWAS THE LACK OF A NAIL WHICH CAUSED HIM TO FAIL
TO ARRIVE WITH THE ORDERS ... ADIEU.
©
EISNER

DEAL YOURSELF IN (On Vehicle Parts)

You might deal yourself in on usin' Ord 8 items if your Ordnance officer cuts the deck.

It'd be a stacked deck if an outfit had to sit around with half its vehicles deadlined, while direct support was too tied up with work to make all the necessary repairs or replacements.

The rule books for this game are the TM's for your outfit's trucks. No matter which one you look in, it'll tell how to do some jobs that direct support is supposed to handle. But the Ord 7 for the same vehicle throws out the ol' hook, and stops you from going anywhere with this dope.

Seems like the Ord 7-type books don't go along with the idea of allowing using units to order spare parts for the bigger repair jobs. If they did, every outfit would be clutterin' up its stock room with a lot of parts for 3rd echelon (direct support) repair work, but no tools or printed details.

Going back to the TM's **para 2** in any one of 'em says something like this: Using units can remove and replace anything on up to a complete assembly —like an engine or transmis-

sion, for example — when an emergency pops up and hits the unit smack in the face.

Emergency or no emergency, the supporting Ordnance officer has the last word, tho. If the unit asks—and he says OK—the unit gets the right cards from direct support. 'Course the outfit has to let Ordnance know it has the mechanics with the know-how for the jobs it wants to do.

Supposin' direct support was stacked up with work . . . the Ordnance officer might give the using unit permission to use enough Ord 8 items to cover the unit's repair work. And some direct support tools would be going down the supply channel along with the parts.

Your outfit is the one that calls for the cards in this game. Your Ordnance officer might deal 'em—if it's the only way to keep vehicles off deadline.

This game can also get too expensive by making your outfit spend too much of its own maintenance time on 3rd echelon jobs. In that case — deal yourself out.

PS THE PREVENTIVE MAINTENANCE MONTHLY

Issue No. 59 1957 Series

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PS wants your ideas and contributions, and is glad to answer your questions. Just write to: **Sgt Half-Mast, PS, Raritan Arsenal, Metuchen, New Jersey.** Names and addresses are kept in confidence.

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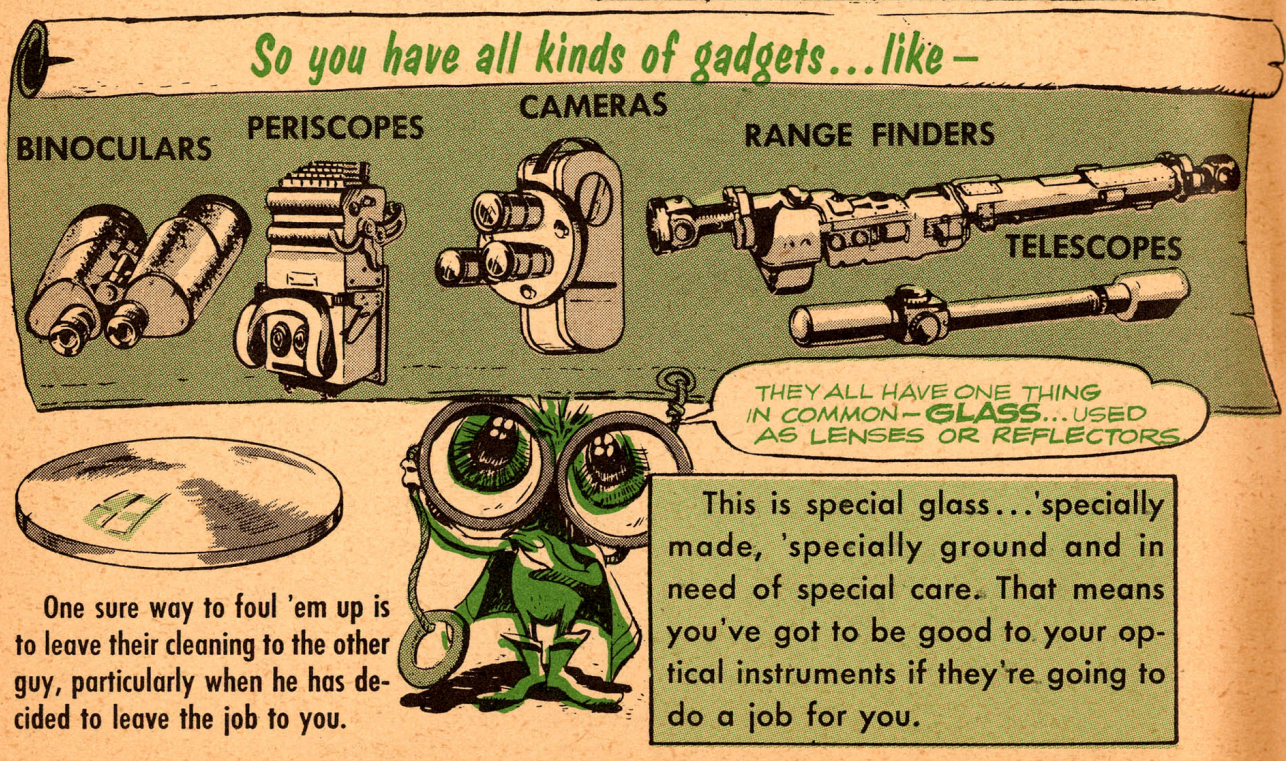
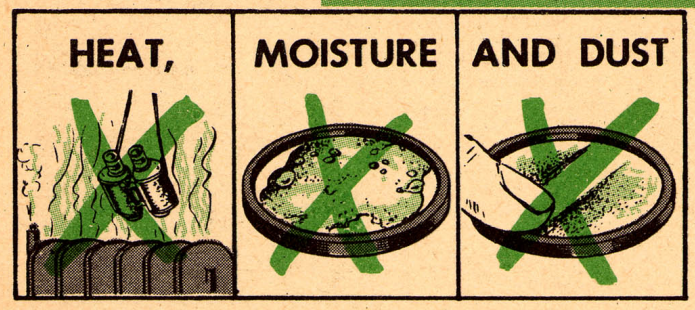
THEY ONLY HAVE EYES FOR YOU...



One sure way to foul 'em up is to leave their cleaning to the other guy, particularly when he has decided to leave the job to you.

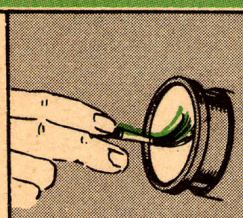
This is special glass...'specially made, 'specially ground and in need of special care. That means you've got to be good to your optical instruments if they're going to do a job for you.

Three things are poison to optics...



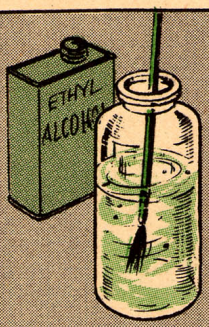
Too many Joes have the idea dust doesn't do any harm. They rub it off a lens with a handkerchief or their finger. Fact is... dust can scratch a lens. And, if there's any grit on the handkerchief or your finger, it could be good-bye lens.

NORMAL TREATMENT

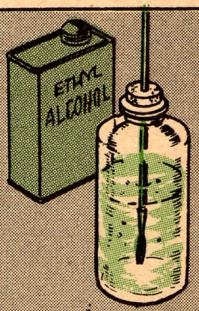


You want a camel's hair brush for getting rid of the dust. Use a light touch with the brush.

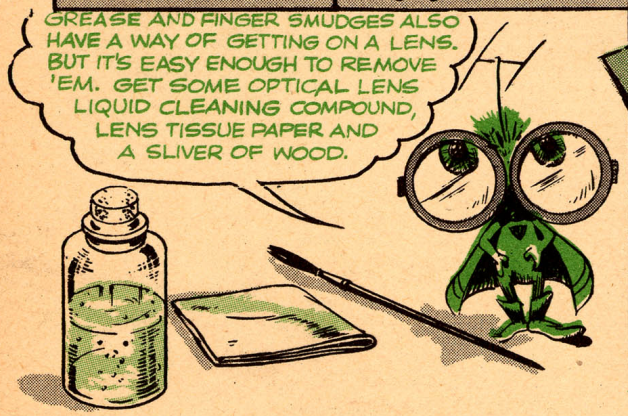
Once in a while rap the handle against something hard to knock out any particles of dust that might be clinging to the bristles.

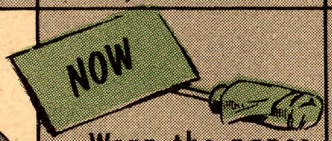


When you're through with the brush, wash it in ethyl alcohol.

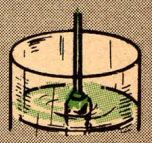


Stand it in a corked bottle of the stuff—with the brush handle pushed through the cork.





Wrap the paper around the end of the wood to form a swab.

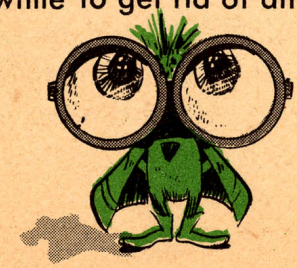


Dip the swab in the cleaning compound...

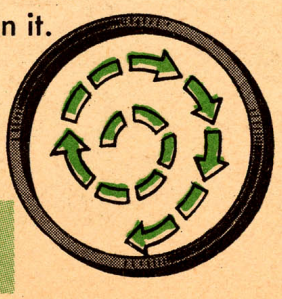
shake off the excess...

and start cleaning.

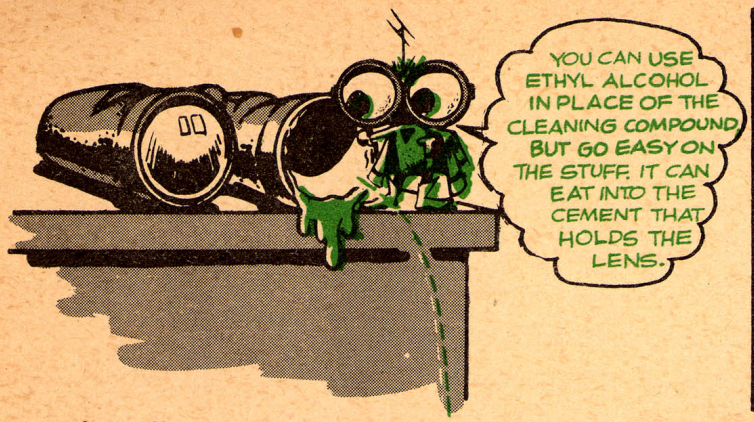
When you're done, wipe away the compound with lens paper that has been folded twice. You fold the paper that way so's oil from your skin doesn't get through to the lens. Rub from the inside outward, and change the paper once in a while to get rid of any grime that collects on it.



Fold twice to keep oil from getting through to lens.

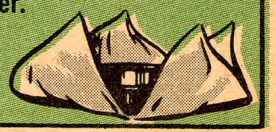


RUB FROM INSIDE OUT!

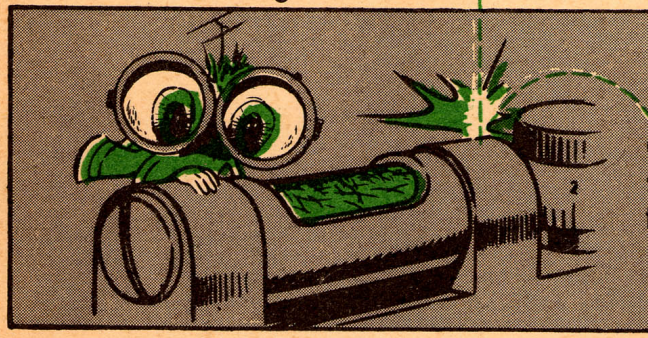


Just plain breath will do if you want to wipe away finger smudges. You need cleaning compound or alcohol to get rid of stuff like grease, tho.

If you're not going to use the lens right away, wrap it in some lens paper.



Incidentally...you want to be kind to coated lenses. The coating is a bluish tint which cuts down the loss of light caused by reflection. Too much rubbing may remove the coating.

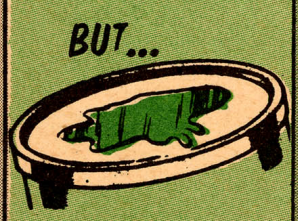


Let's not forget that you also want to use care in cleaning leveling vials. After all... scratches on the vial glass'll make it harder to see the leveling bubble.

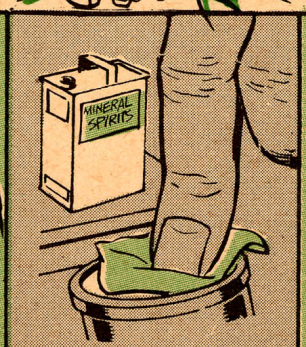
Sumpin' else...don't let anyone bambozzle you into believing polishing liquids, pastes or abrasives can be used in cleaning a lens. That stuff may scratch the lens, make its own dust or fog up the lens.

PAINTING

Be careful when you're painting near a lens or other optical glass. Keep the instruments covered.

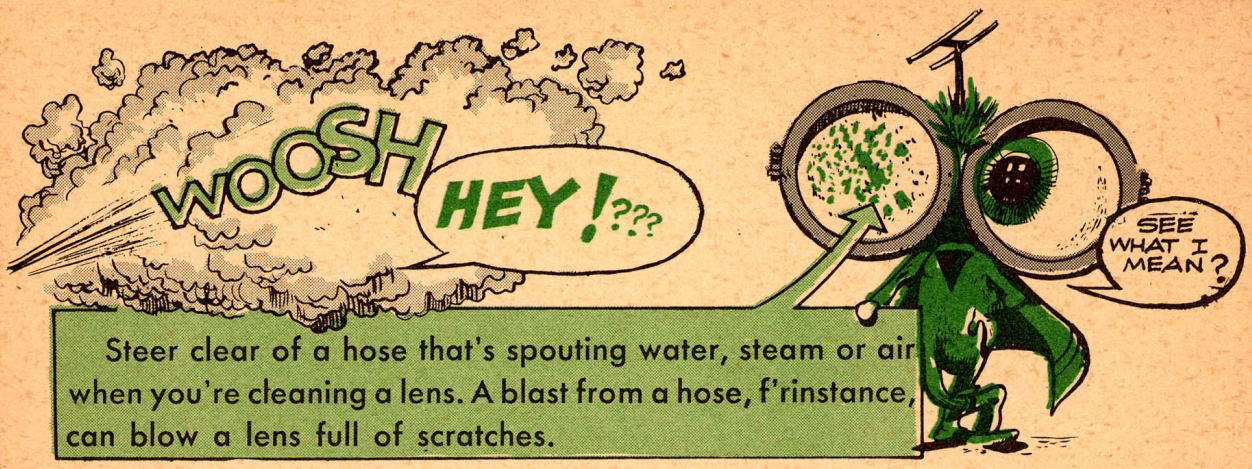


...if some paint should get on 'em, wipe it off before it hardens.



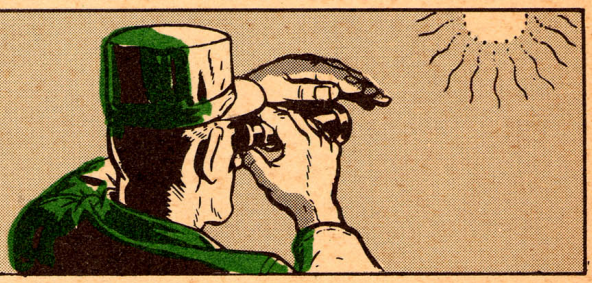
Use lens paper dampened with volatile mineral spirits.

Follow that with an alcohol wash.

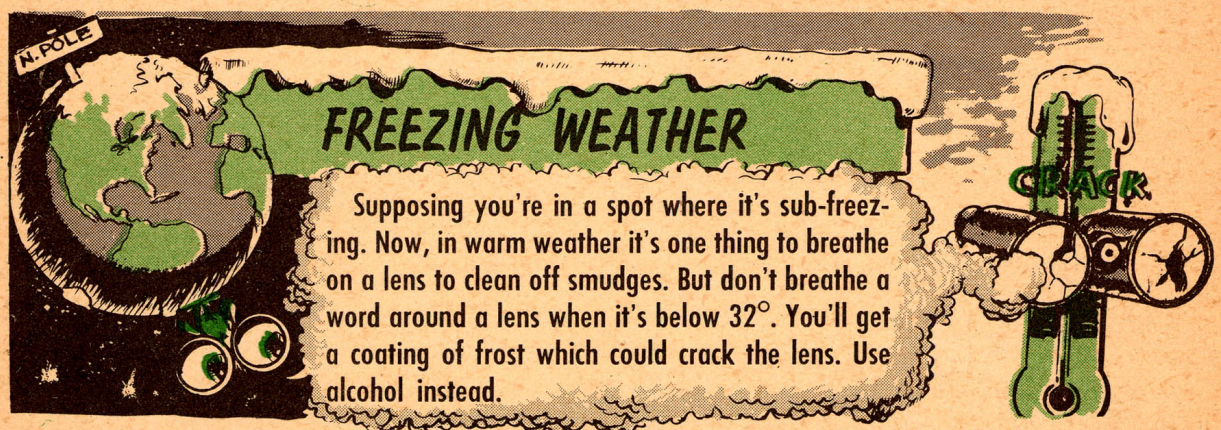


Steer clear of a hose that's spouting water, steam or air when you're cleaning a lens. A blast from a hose, f'rinstance, can blow a lens full of scratches.

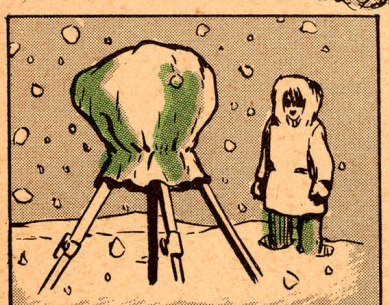
If you have the sighting equipment pointed in the direction of Ol' Sol, use a filter or shade the lens. Otherwise... the heat of the sun's focused rays may soften the lens-holding cement or crack the reticles (the glass disk marked with measuring lines.)



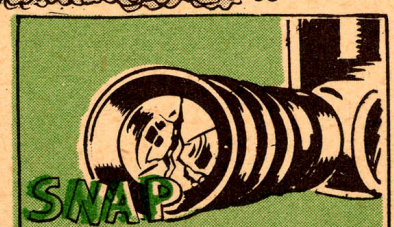
For the most part, we've been talking about the care of optical equipment under normal conditions—something you don't run into all the time.



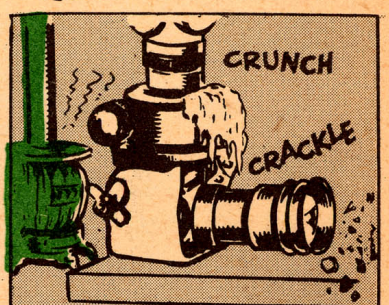
Supposing you're in a spot where it's sub-freezing. Now, in warm weather it's one thing to breathe on a lens to clean off smudges. But don't breathe a word around a lens when it's below 32°. You'll get a coating of frost which could crack the lens. Use alcohol instead.



It's best to leave the equipment outdoors and protected from snow and freezing rain because you can run into double trouble when you take something cold into a warm place.

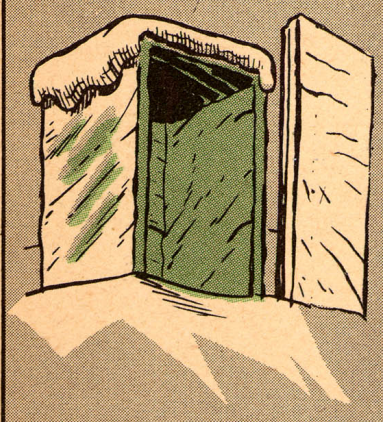


For one thing... condensation will form both in and on the instrument. Moisture, of course, can cause rust on metal parts and if left on the lens when the lens is taken outside again will freeze and maybe crack the glass.

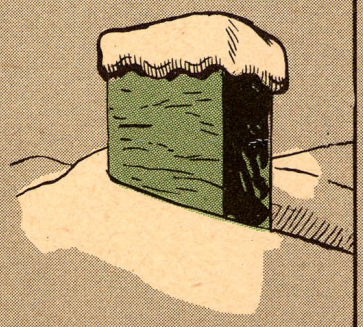


If frozen optical equipment is placed near a hot stove, the sudden change in temperature could mean the different parts will expand enough to cause a heap of damage.

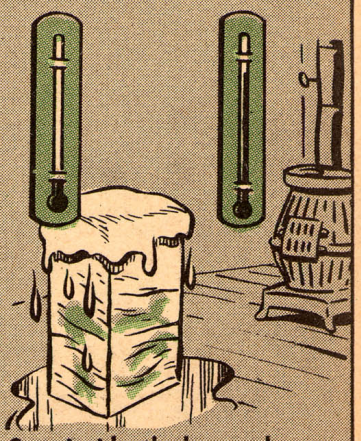
You do have an "out" when you go in, tho. The trick is to use a box lined and covered with a continuous piece of heat conducting material, like aluminum foil. The box should also have a tight fitting lid.



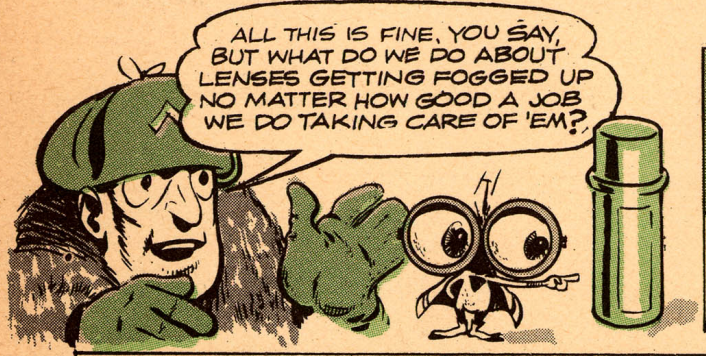
What you do is keep the box outdoors so it stays as cold as the lenses and things.



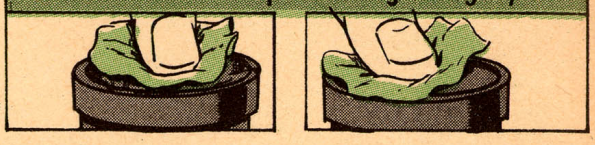
Before taking the equipment indoors, put it in the box and close the lid.



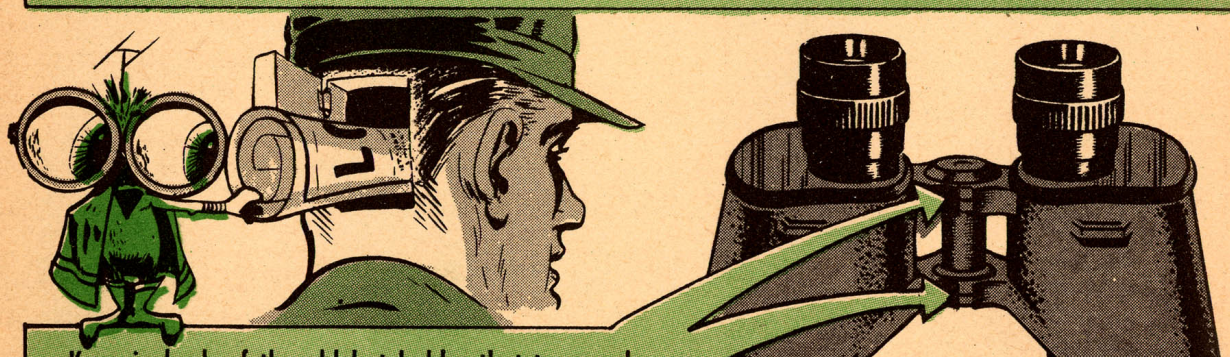
Once inside, the box and contents will warm up slow-like. When you figure it's near room temperature, you can remove the instruments.



Simple. Use anti-fog compound—the stuff that calls a rapid halt to fogging. Put the compound on the lens with lens paper and when it has dried use another tissue to polish the glass lightly.



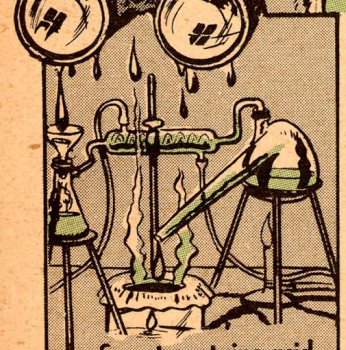
Lubrication is something else to think about in cold weather. So check your lube instructions for the right kind of lubes to use.



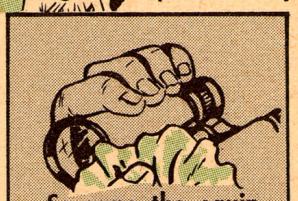
Keep in back of the old hat holder that too much lubrication can cause moving parts to act sluggish—even fail altogether.

HOT HUMID WEATHER

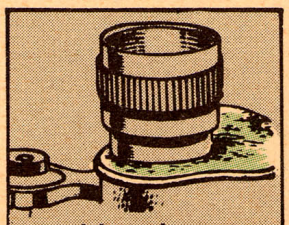
Jumping from the refrigerator into the frying pan . . . hot, humid weather won't hurt the lenses, but you've got to keep an eye on the rest of the optical instrument. Sweat flows freely in hot weather, and you've got to keep it off metal parts of your instruments.



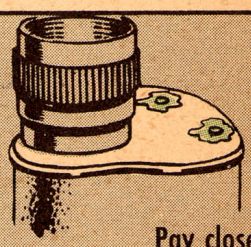
Sweat contains acid, and acid means corrosion.



So wipe the equipment dry after using it and put a thin film of oil on the unpainted metal parts. You go easy on the oil because it's a dust catcher.



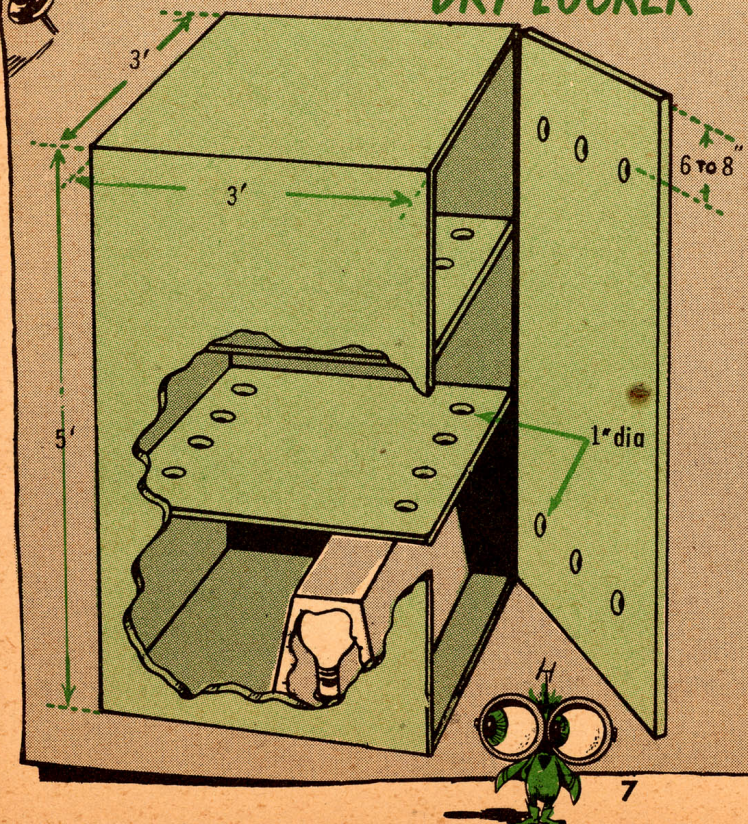
High humidity means there's dampness in the air and that means you've gotta watch for rust and fungi (mold) all the time.



Pay close attention to screws and pins. They could rust in place. You'll be on the ball by oiling 'em lightly once a week.

There's a way of beating rust and fungi to the punch, tho . . . with a drylocker. You can store optical equipment in a drylocker and know that when you're ready to use the instruments they'll be in good shape.

DRY LOCKER



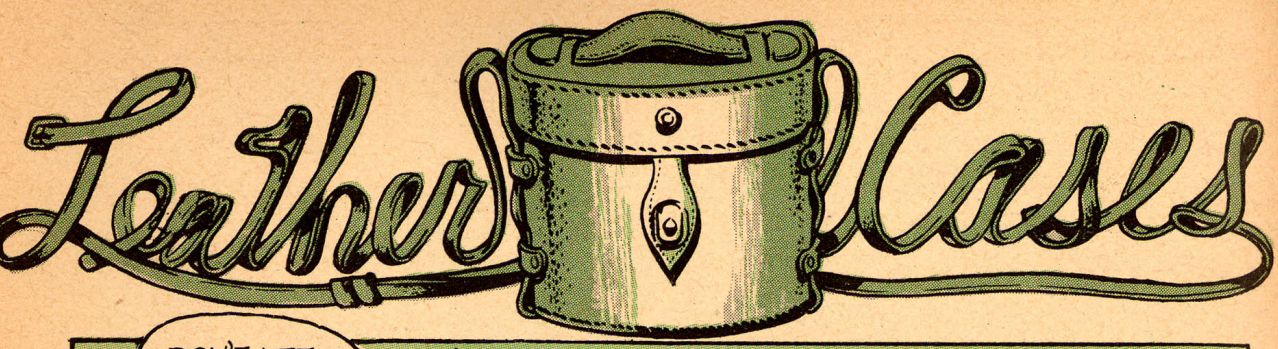
Drill three 1-in holes 6 to 8 inches from both the top and bottom of the cabinet. Drill 'em on either the front or back side — the front being where the door is.

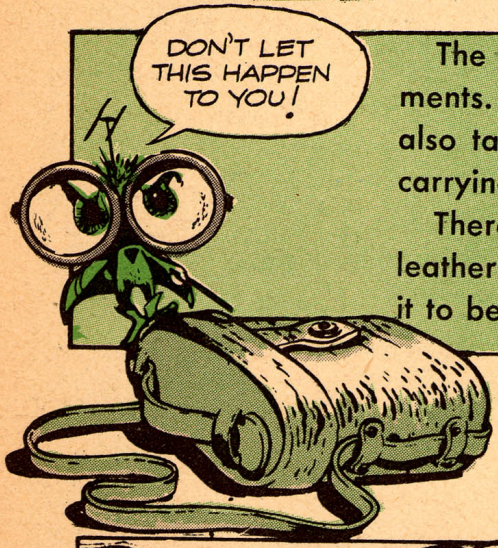
OK . . . now build two shelves, each with eight 1-in holes, and put 'em in the cabinet so the cabinet is "cut" in thirds.

The deal that turns the cabinet into a drylocker is a light bulb that you put on the bottom of the cabinet. A 25-watt bulb should do the trick, but you may need a bigger one in the tropics. Put a shield, like aluminum foil, around the bulb as protection against a possible fire.

The drylocker works like so: Air comes through the holes at the bottom of the cabinet. It is warmed as it passes the bulb . . . and takes the dampness with it on out the holes at the top. 'Course, you don't want to let heat build up in the cabinet 'cause it might damage the instruments and melt the lubes.

Leather Cases

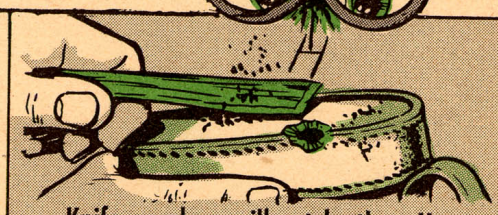




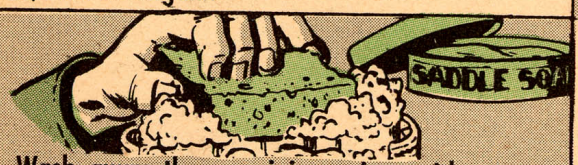
The drylocker'll do more than take care of the instruments. Make it bigger and you'll have a cabinet that'll also take the dampness out of your leather instrument carrying cases.

There's one thing to remember...you want to treat the leather with "kid gloves" since too much heat will cause it to become brittle and crack.

The case should be thoroughly cleaned inside, now and again.

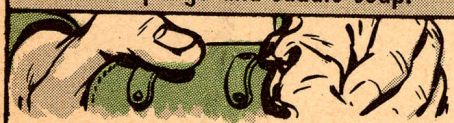


Knife or glass will cut leather. Use a stick of wood on outside.



Wash away the remaining grime with a cellulose sponge and saddle soap.

Rinse away the soap with warm water and follow with another rinsing.



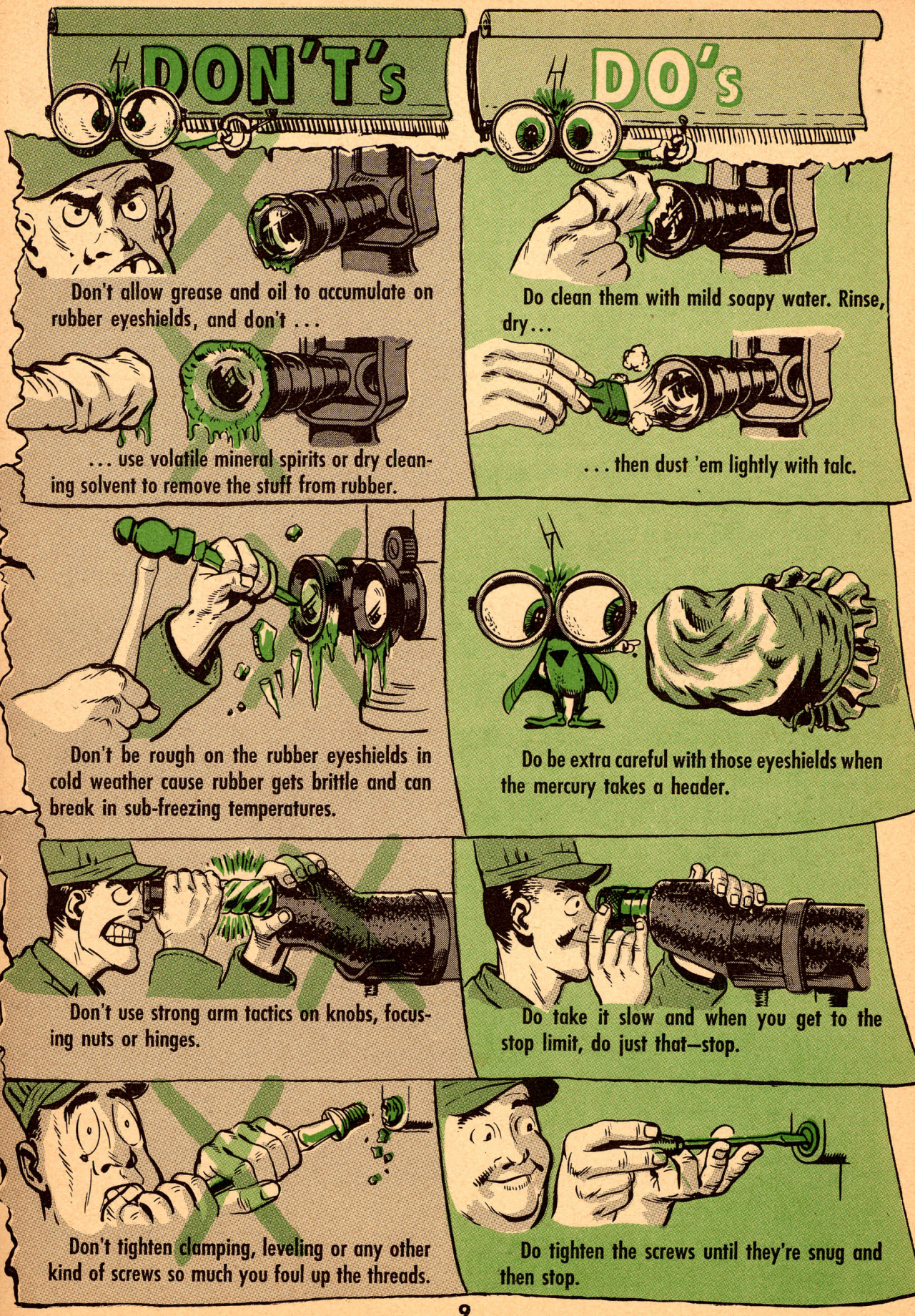
Wipe with clean cloth. Don't dry in sun. You can use drylocker, but watch that HEAT!

After leather dries out, you'll want to replace oil washed away.

Rub leather with cloth moistened with neat's foot oil.

Wipe away the excess oil and rub the leather to a shine.

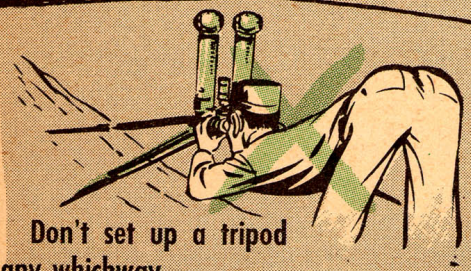
If the leather has been treated with mildew-preventive leather dressing, Ordnance will re-treat it after the washing.


DON'T's
DO's
Don't allow grease and oil to accumulate on rubber eyeshields, and don't . . .
. . . use volatile mineral spirits or dry cleaning solvent to remove the stuff from rubber.
Do clean them with mild soapy water. Rinse, dry . . .
. . . then dust 'em lightly with talc.
Don't be rough on the rubber eyeshields in cold weather cause rubber gets brittle and can break in sub-freezing temperatures.
Do be extra careful with those eyeshields when the mercury takes a header.
Don't use strong arm tactics on knobs, focusing nuts or hinges.
Do take it slow and when you get to the stop limit, do just that—stop.
Don't tighten clamping, leveling or any other kind of screws so much you foul up the threads.
Do tighten the screws until they're snug and then stop.

DON'T's

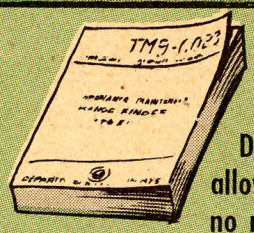
Don't take apart sighting equipment to see what makes it tick.

Don't let binoculars, cameras or other small instruments flap in the breeze.



Don't set up a tripod any whichway.

DO's



Do what your TM allows you to do and no more.

Do shorten the strap by adjusting it or by tying a knot in it so there'll be less chance they'll hit something when you move around.

Do spread the legs and embed the feet in the ground. If the legs can be extended, adjust them so the head is level. On a slope, put two legs on the downhill side. Keep the extension leg clamps tight.

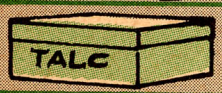
You Wanna Remember!

You take care of your optical instruments and carrying cases according to the area you're in. The optics and cases need special attention if you're in a dusty, damp or cold spot. The best rule is that there is no set rule in caring for the equipment. Do the job when it needs to be done... over-handling and over-maintenance can do harm to these delicate items.

The Things You Can Use

Compound, anti-fog . . .
FSN 6850-368-5228.

Paper, lens tissue . . .
FSN 6540-162-2993.



Talc, technical . . .
FSN 6810-270-9989.

Thinner, paint, mineral spirits . . .
FSN 8010-242-2089.

Alcohol, ethyl . . .
FSN 6810-224-1576.

Soap, saddle . . .
FSN 7930-129-0816.

Cleaning compound, optical lens liquid . . .
FSN 7930-227-1887.

Neat's foot oil . . .
FSN 8030-244-1033.

Sponge, cellulose . . .
FSN 7920-240-2560.

Brush, artist's . . .
FSN 8020-257-0367.

Brush, cleaning, bristle . . .
FSN 7920-132-7772.

Paste This In Your Noggin

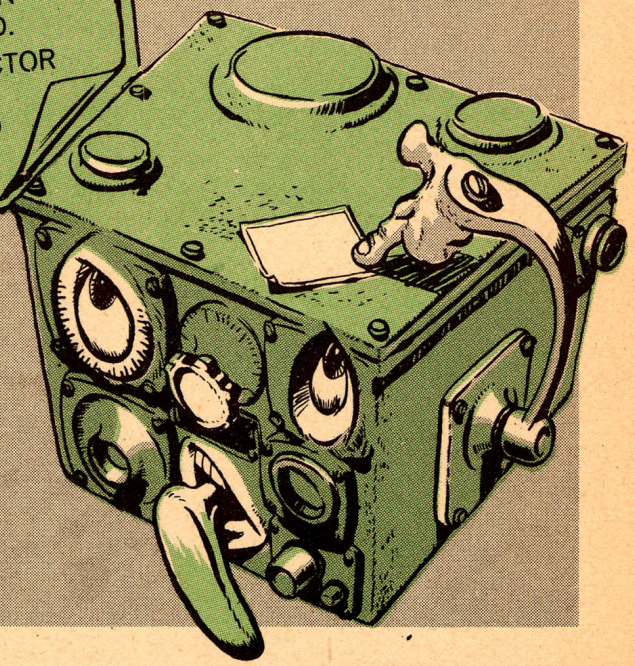
To Keep Your M13 (T31) Ballistic Computer Coggin'

TO OPERATE AMMO SELECTOR HANDLE

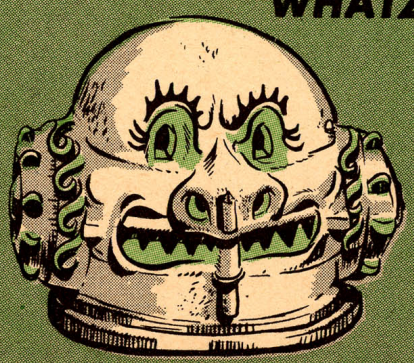
1. ROTATE HANDLE CLOCKWISE AS FAR AS POSSIBLE (APPROX. 30 DEGREES).
2. PUSH OR PULL HANDLE TO SELECT AMMO DESIRED.

CAUTIONS

1. WHEN CHANGING TABS OF AMMO INDICATOR WHEEL; ACTUATE AMMO SELECTOR HANDLE TO ROTATE WHEEL.
2. COMPUTER POWER MUST BE OFF WHEN CHANGING CAMS.
3. DO NOT ACTUATE RESET BUTTON WHEN HANDCRANK IS ENGAGED.
4. DO NOT OPERATE AMMO SELECTOR HANDLE IF COMPUTER SUPER-ELEVATION IS BETWEEN 0 AND −1.5 MILS.



WHATZZIT???



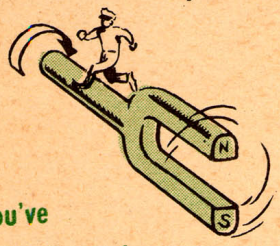
Looks like a robot or monster from Lower Slobovia, but don't get scared. This is a real delicate piece of equipment. The sight of this thing is enough to make you flip, but it's easy to figure what it is by computing your knowledge. See page 21.

Maggies Different

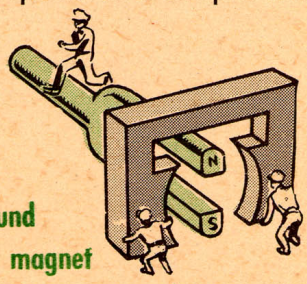
Dear Half-Mast,
What's the difference between a magneto ignition system and a battery ignition system? How does the magneto work?
Sgt. F. J. W.

MAGNETIC CIRCUIT

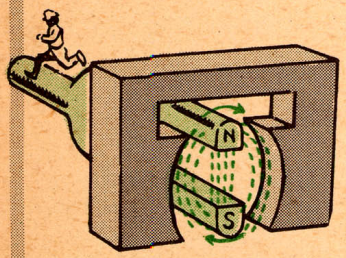
Here's how your magneto works, real quick and simple like.



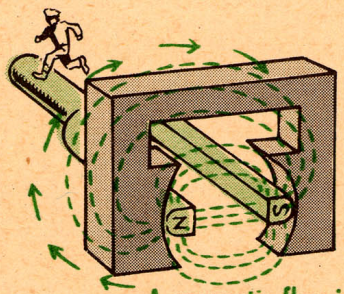
You've got a magnet, rigged to rotate on a shaft.



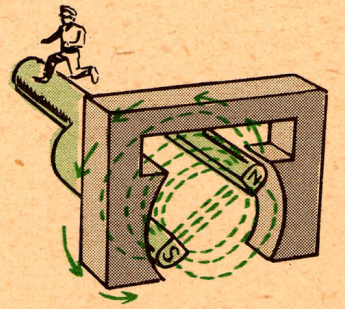
Around this magnet you've got a metal core or field.



You can see that the magnet revolves between the pole pieces.



A magnetic flux is set up in the core, first in one direction...



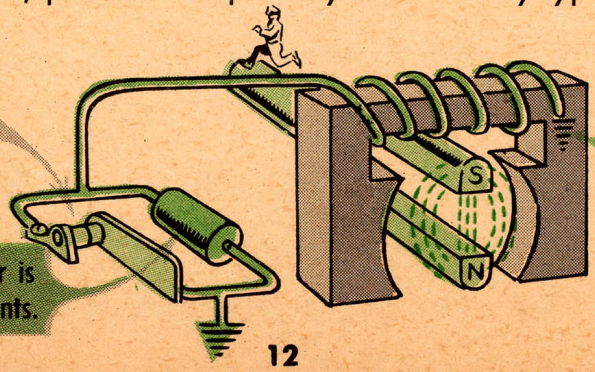
then in the other direction.

PRIMARY CIRCUIT

Around the core you have a coil made up of relatively few turns of fairly heavy wire, just like the primary of a battery-type ignition coil.

The other end is grounded through a set of breaker points similar to those in the battery type distributor.

A capacitor or condensor is connected across the points.



One end of this coil is grounded to the core.

Maggie's Different

Dear Half-Mast,
What's the difference between a magneto ignition system and a battery ignition system? How does the magneto work?
Sgt. F. J. W.

Dear Sgt F. J. W.

The main difference between a battery type ignition system and a magneto ignition system is in the source of the low tension or primary circuit. In your battery system, as the name implies, this current comes from the regular battery-generator system of the vehicle. The magneto system, as the name also tells you, revolves a magnet inside a coil to generate its own primary current.

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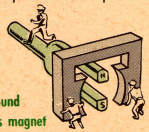
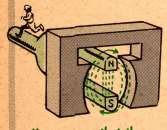
You've got a magnet, rigged to rotate on a shaft.



Around this magnet you've got a metal core or field.



You can see that the magnet revolves between the pole pieces.

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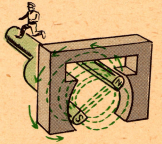

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PRIMARY CIRCUIT

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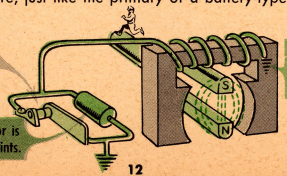
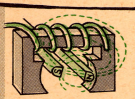
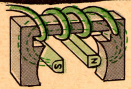


One end of this coil is grounded to the core.

A capacitor or condensor is connected across the points.



Magnet revolves and sets up moving flux in core.



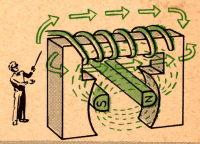
This flux passes through turns of primary and induces current in coil.

Current stops as magnetic flux breaks down.

As flux builds up again, current flows in other direction.

Primary windings are so wound that as current is induced in them, they also act as an electromagnet and create a magnetic field of their own.

This field is larger and more powerful than the field of the revolving magnet and supplements it.



Now, think about induced currents for a second. We all know that if you have a magnetic field building up and collapsing across a coil of wire, you induce a current in that wire. But how much current you induce depends, among other things, on how fast you move that field. Which is why you have the breaker points in your magneto. Without them you would have an alternating current in the primary, and it could be used to induce a higher voltage in a secondary winding, same as a transformer.

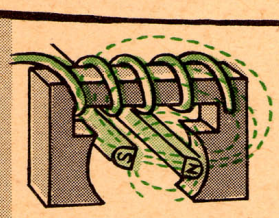
Slow collapse

Quick collapse

But this would not be too efficient, since the collapse of the field would be relatively slow. We can get a faster collapse of this field by suddenly turning off the primary current. This is done by opening the breaker points. The capacitor helps take care of the self-induced voltages and prevents arcing at the points. The instant these points open, the situation changes. No flux, no current, no nuttin.

Dear Sgt F. J. W.

The main difference between a battery type ignition system and a magneto ignition system is in the source of the low tension or primary circuit. In your battery system, as the name implies, this current comes from the regular battery-generator system of the vehicle. The magneto system, as the name also tells you, revolves a magnet inside a coil to generate its own primary current.



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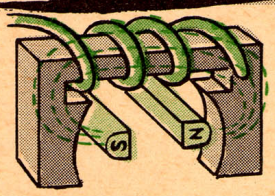

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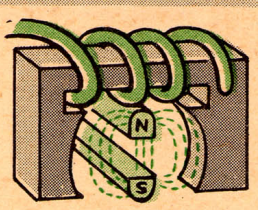
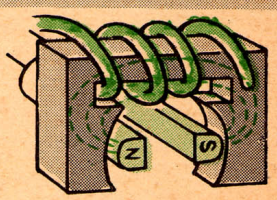


Current stops as magnetic flux breaks down.



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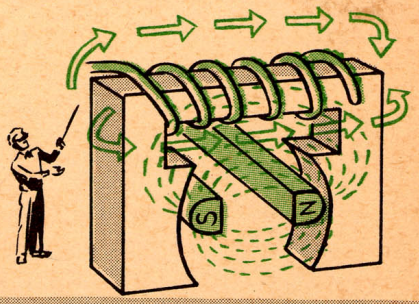

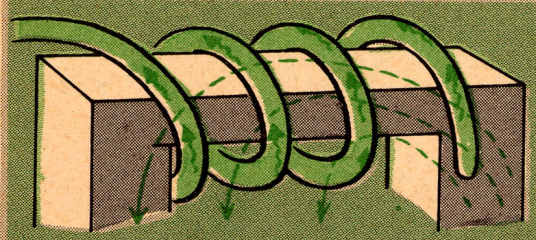

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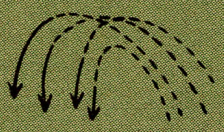
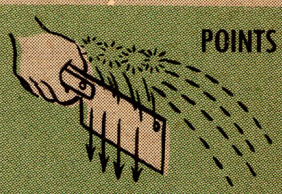
TRANSFORMER



Slow collapse

POINTS



Quick collapse

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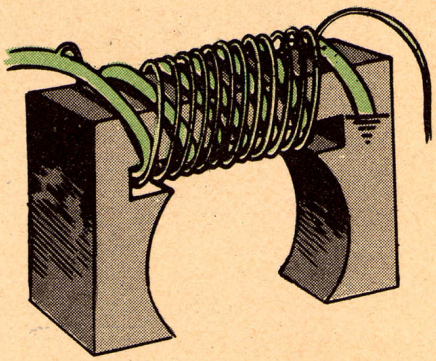
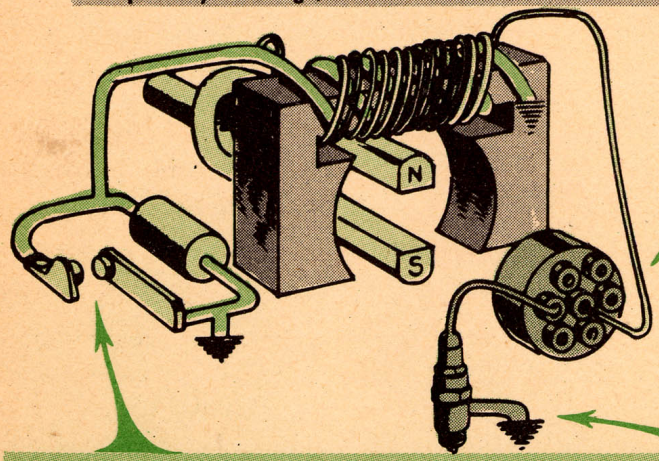
SECONDARY CIRCUIT

OK, so now we've got a system for generating a current in a primary coil, using that current to boost the magnetic flux through the core, and then suddenly chopping it off at its highest point. But this doesn't do anything to fire the charge in our engine cylinder. The right panel shows that a secondary winding of the magneto is needed. This is a coil consisting of a great many coils of real fine wire wound right over the primary winding.



The other end of the secondary winding is grounded. It is grounded **through** the primary windings, here.



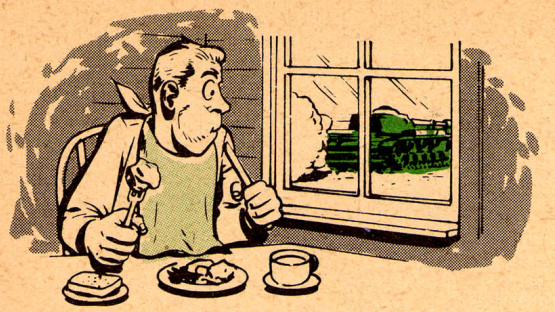
One end of the secondary runs to the center contact of the distributor section of the mag.

It feeds high tension current to a rotor, from the rotor to contacts in the cap, and then out through the ignition harness to the spark-plugs, just the same as the battery type system. The rotor and cap are a part of the magneto and the rotor is driven by the same shaft that carries the magnets.

You see that when the ignition points are open, the only place a secondary current entering the primary winding can go is back through the primary to the grounded end. This is done thisaway so that the primary windings serve as extra turns in the secondary circuit (the coils are wound in the same direction) and so they pick up a little more boost from the collapsing magnetic field. Costs nothing extra, you've got the windings there anyway, so they use 'em.

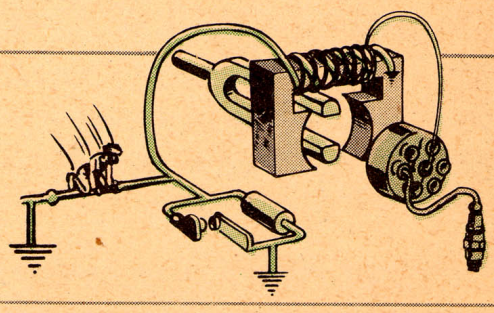
GROUND CIRCUIT

OK, so now you've got everything you need to make your engine run. You are generating a primary current, using it to build up an additional magnetic field, then interrupting it to cause the field to suddenly collapse. Then you are using the collapsing magnetic field to induce a high tension current in your secondary winding and taking that high tension current through a distributor to the spark plugs. Good deal, the engine will run.



But, comes chow time, you might want to stop the engine while you feed your face. Also, its handy like to have some way to shut off the ignition while you work on the engine. Sudden starts could be embarrassing.

So, there is a grounding lead provided. This lead runs from the magneto to the control panel—either on the dash of vehicles, or on the panel of generators, etc.—then through the ignition switch to ground.



CAUTION

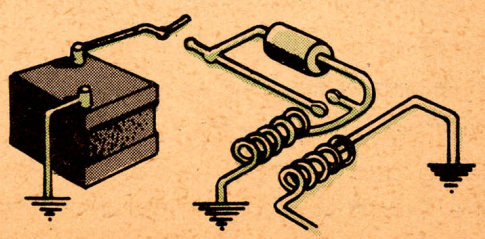
Now, watch this, hear and heed. A magneto ignition system is OFF when the switch is CLOSED. This is just the opposite of the battery system, and forgetting it has caused accidents. When the ground lead is removed from some magnetos the ignition is ON. The only way you can be sure your ignition is off when removing the engine or the panel is to run a jumper lead from the magneto grounding terminal to a ground on the engine, **or** remove the magneto cover and/or distributor cap. Keep this difference in mind and you'll never be swatted by a propeller or an engine turning wrench.

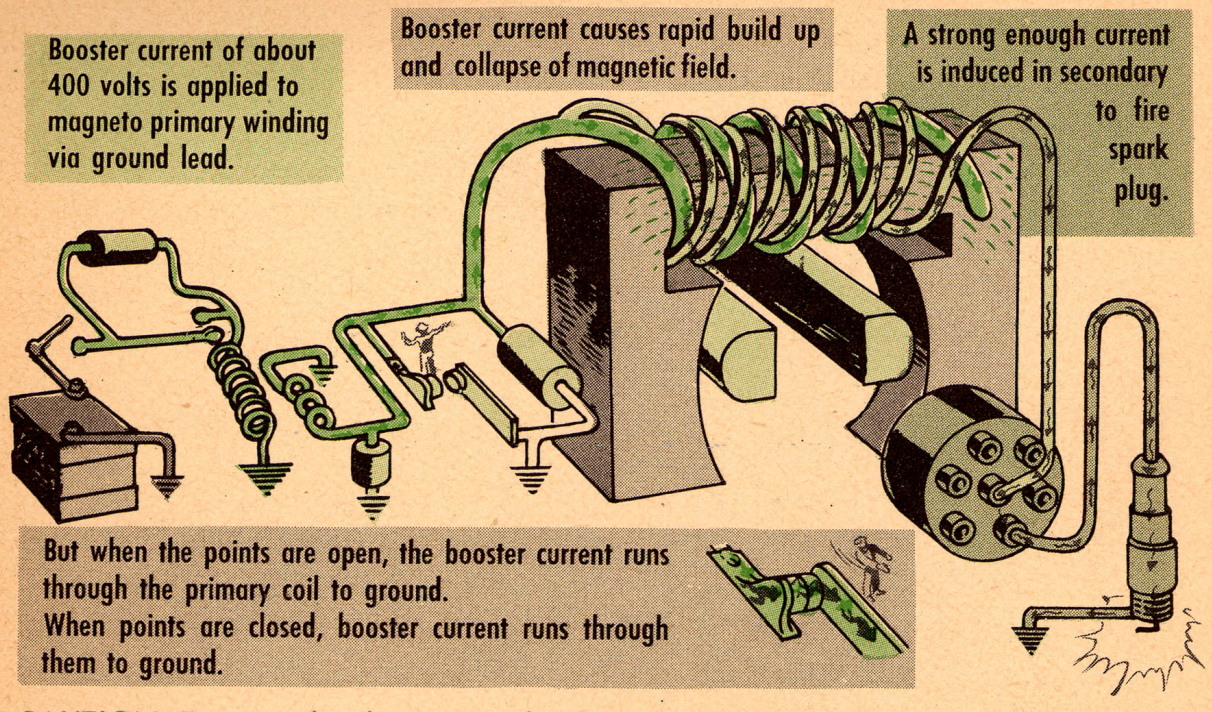
BOOSTER COILS

There is one problem to be solved in starting a magneto-fired engine. You have to get the engine turning pretty fast before the mag will put out enough spark to fire a plug. Or else you have to do something else to create that starting current.

On the little single cylinder engines with flywheel magnetos, such as you find on power mowers and water pumps or small light plants, they just depend on your good right arm to be able to crank the engine fast enough to fire it. On one of these putt-putts, it isn't hard. But, your Continental AV-1790 tank engines are horses of a different color. Nobody, but nobody, spins that big rig fast enough to cut in the magneto. So they start it by means of a booster coil.

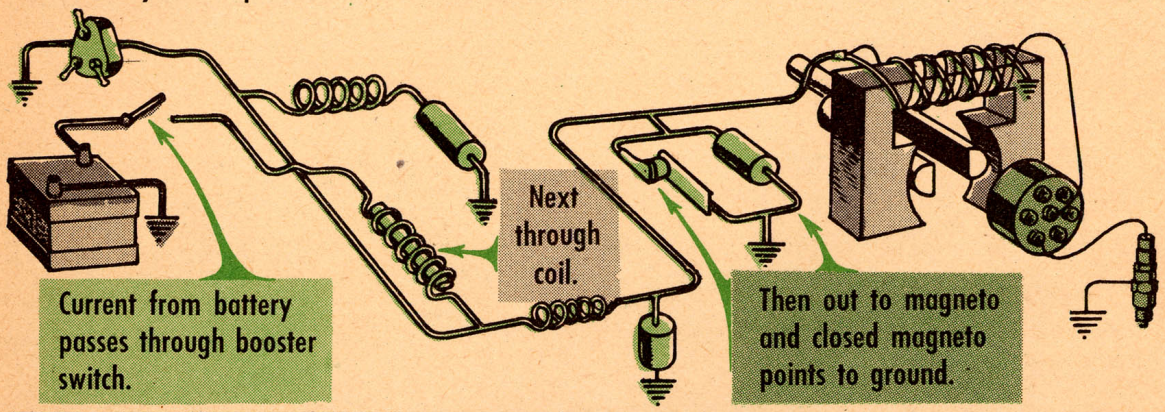
This is simply a battery-powered induction coil which has its own vibrating breaker points and supplies an output of approximately 400 volts, alternating current.

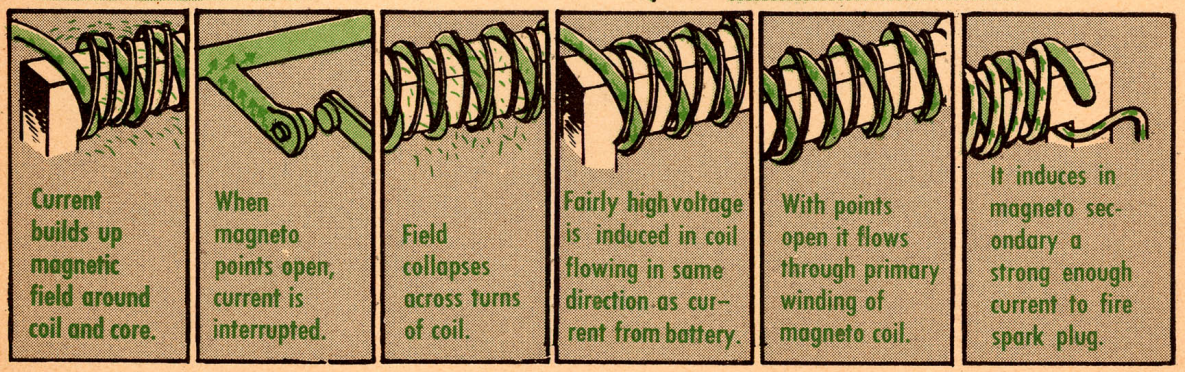




CAUTION: Easy on that booster coil. It is intended to be on not over 30 seconds at a time, and you can burn it out real easy if you break this rule.

Later tanks, including most of those you're likely to meet, have a little different booster system. On this one, the booster coil has no vibrator points, and no secondary. It is just a coil wound on an iron core.



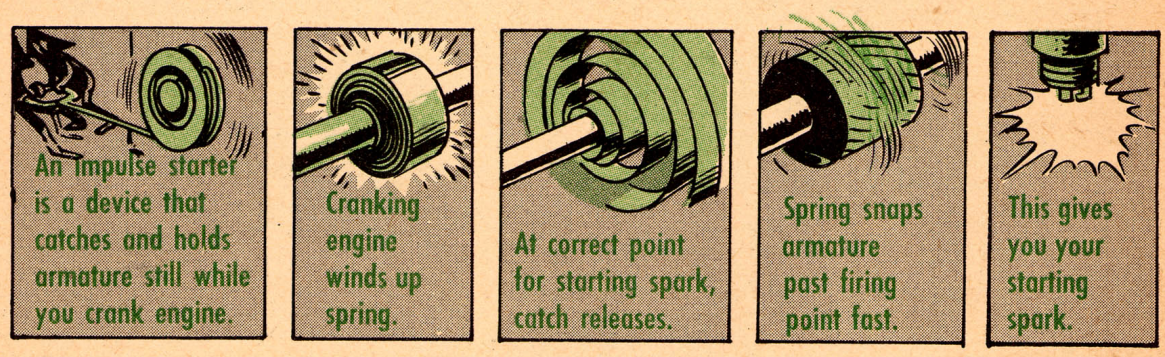


The coils and capacitors are there for radio suppression. This booster, too, is only to be used for 30 seconds at a time.

You'll never have to monkey with either of these boosters. If they fail, you replace the whole unit.

IMPULSE STARTERS

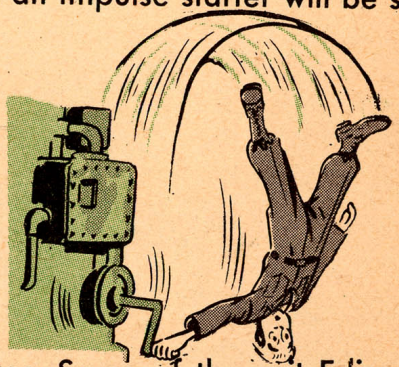
Sometimes you will find a magneto installed on an engine which is too big to be cranked fast by hand, but which has no battery and starter system—such as a water pump, generating plant, or some light aircraft or tractors. These magnetos are equipped with what is called an "impulse starter."



All impulse starters have some form of centrifugal or fly-weight contraption which cuts them out when the engine picks up enough speed to fire without 'em. You can hear the snap-snap-snap-snap-snap as the engine starts to fire, and you hear it quit when she picks up speed. Sometimes you hear it again after you have shut the engine off and while she coasts to a stop.

SPARK ADVANCE

Some magnetos have an internal spark advance mechanism which advances the spark as the engine RPM increases. On your tank engines, the advance mechanism is separate from the magnetos, and is in the drive train. Thus one advance unit controls two magnetos. Often a magneto with an impulse starter will be set to fire at the optimum RPM of the engine and will get a spark retard for starting from the setting of the release dog in the impulse device. Most of the little ones are simply set to run right at governed RPM, and you just have to crank fast and hard enough to carry 'em over the starting. (These li'l rascals sometimes kick like a mule when you crank 'em.)



So, that's it, sarge, a quick rundown on magnetos. Some of the unit Edisons may take exception to some of this, but I tried to keep it as simple as possible.

Half-Mast

ARMAMENT

500, 1000, 1500—The Numbers to Remember With the M40A1 and M40A1C Recoilless Rifles

BINGO

You may be finding your M40A1 or M40A1C recoilless rifle lacks the get-up-and-go she had when you first got her—especially if you've been popping off a lot of rounds. You know . . . kinda pooped out with the recoil.

A change in climate—the kind you find around an Ordnance support unit—probably will take care of things.

After you fire 500 rounds with a new rifle send it back to Ordnance so they can adjust the recoil compensating ring in the vent assembly.

Then . . . when the rounds you've fired add up to 1000, send the rifle back to Ordnance again.

Your rifle's got to go to Ordnance after each successive 500 rounds for adjustment.

Remember, tho—

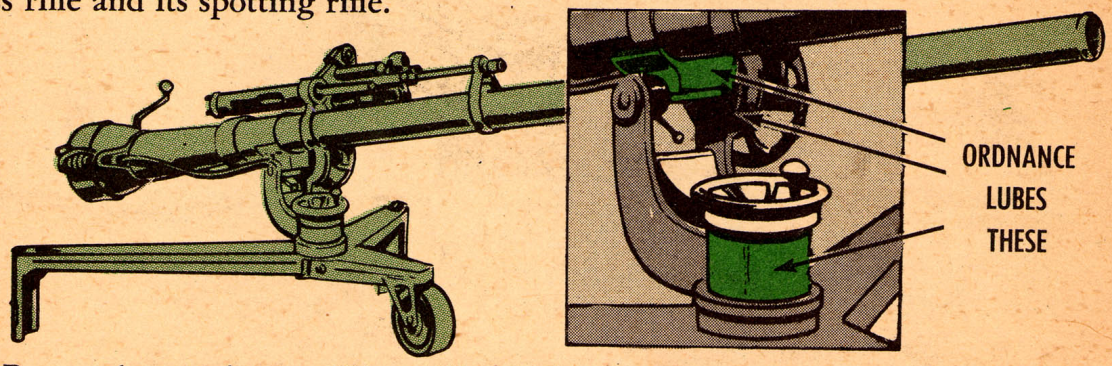
You've gotta keep your Weapon Record Book up to date
If you're gonna have your rifle firing . . . first rate.

TIGHTEN FOR SIGHTIN'

You're never gonna boresight the 90-mm gun on the M48 series tank if you have loose knobs on the T46-series range finder. So . . . tighten the two setscrews on the elevation and azimuth and boresighting and auxiliary boresighting knobs. Then drop some locking compound (Eng. Stock No. 52-8610.500.003) on the screws.

FOLLOW LO

LO-3058 has all the answers when it comes to lubricating the 106-mm recoilless rifle and its spotting rifle.

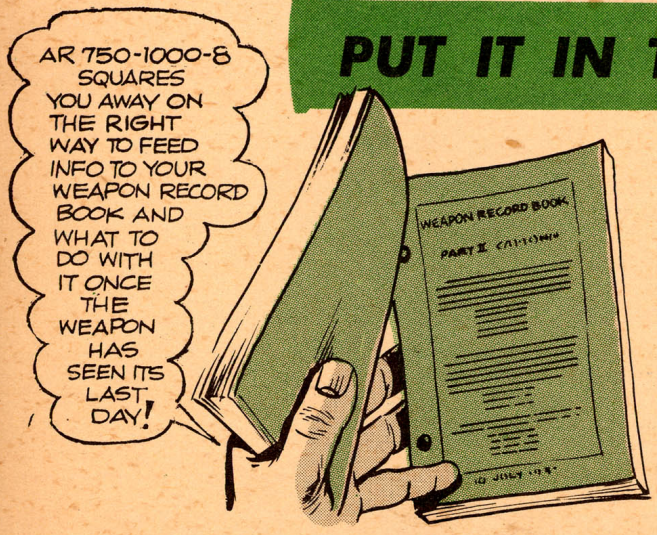


Pay real attention to "Note 5" which tells you Ordnance shoots GL in the elevating and traversing mechanisms and the firing transfer box on the 106. This is done when the weapon is disassembled—or about every six months.

And, in case you're not clear on cleaning and lubing the bores of the two rifles and the breech and firing mechanism of the 106, you'll get squared away right now.

Clean the parts with bore cleaner right after you've fired the weapons. Do the same thing for the next three days . . . wipe the parts dry . . . and then apply some PL Special.

PUT IT IN THE BOOK

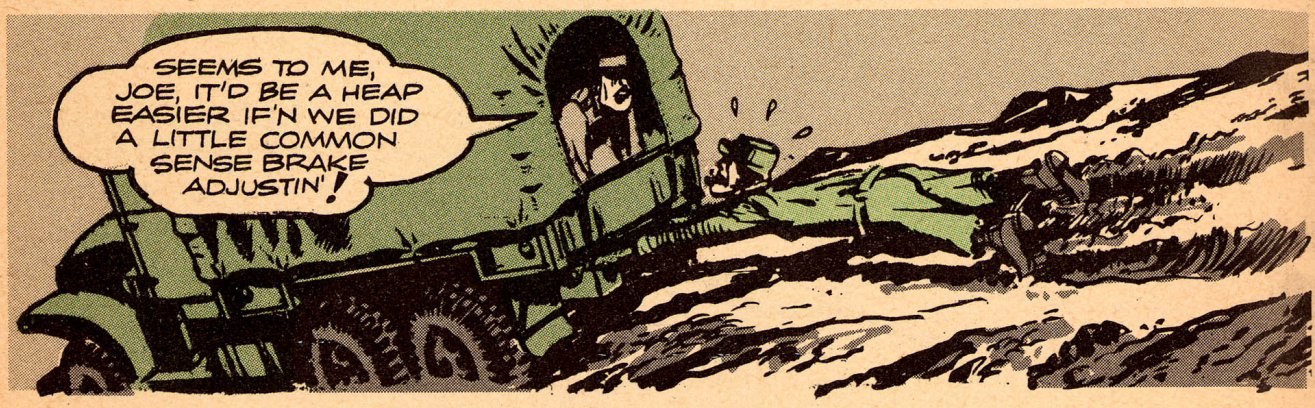


The AR tells you that when the piece becomes obsolete, or is destroyed, condemned or what-have-you, a note should be made in Part II of the record book. And the person who says the weapon has had it should sign and date the book. Then you send the book to: "Ordnance Weapons Command, Rock Island, Illinois, ATTN: ORDOW-FM."

That's also the address you wanna remember when you find a record book that has parted company with its weapon.

And if you have lost your book, get a new one quick-like—DA Form 9-13, Ord Stock No. J003-8407300, for Part I, and DA Form 9-13-1, Ord Stock No. J003-8407301, for Part II. Ord Stock No. J003-8408957 gets 'em both. Ordnance will estimate the number of rounds you have fired . . . you fill in the rest—at least as much as you can remember.

When a Feller Needs a Friend—YOU'VE GOT



Some fellers are wondering why they get gigged every time an inspector checks the handbrake adjustment on their M-series wheeled vehicles. Well, the reason is simple—there is more than one adjustment spec floating around on a couple of your trucks.

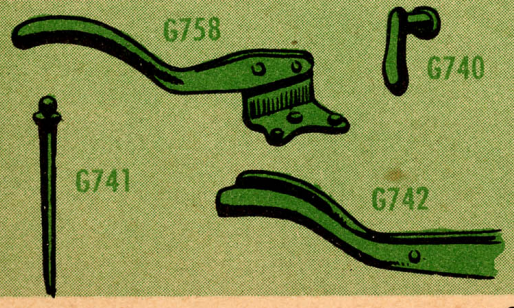
Take TM 9-8024 (Oct 55), for example. On page 143 it says, "Stop the vehicle on an incline; then apply the parking brake and observe if it holds the vehicle effectively, that the application lever has **over one-third** of its travel in reserve . . ."

That is, if less than one-third of the parking brake lever travel is in reserve, you need an adjustment.

On the other hand, the same TM on page 467 says, "Parking brake adjustment is required when hand lever requires more than **three-quarters** travel for full application." In other words, one-third is its minimum and three-quarters travel is the maximum.

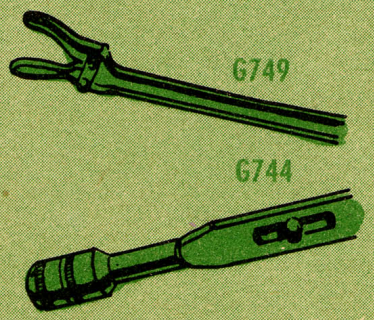
What some guys have been doing—and their inspectors too—is following the specs given in the Organizational Mechanic or Maintenance Crew C & D Preventive Maintenance Service table in their TM. They figure that until the TM's made to jibe, this would be the best thing to do.

So, if you want to follow the same deal and make things a little easier, here're the specs given for each TM in this table:



A handbrake adjustment is required on your G740 Jeep (TM 9-8012), on your G758 Jeep (TM 9-8014), on your G741 3/4-ton truck (TM 9-8030) and on your G742 2 1/2-tonner (TM 9-8022) when the handbrake lever requires more than 3/4 travel for full application.

A HANDY BRAKE



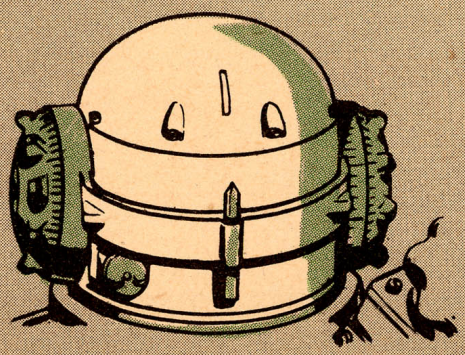
On your G749 2½-ton (TM 9-8024) and your G744 5-ton (TM 9-8028) trucks if less than 1/3 of your handbrake lever is in reserve when you pull it up, the brake needs adjusting. It's best to test the brakes for these trucks when they're on an incline of some kind.

While on the subject of handbrake adjustments, here's some dope to add to your knowledge about handbrakes on your M-series trucks:

When adjusting your G742 2½-ton's handbrake, make sure that **before** you adjust the handbrake cable, the outer shoe-stop screw should be adjusted to position the toe of the outer shoe .015 of an inch away from the brake drum. The same dope holds true for your G744 5-ton trucks. It may be necessary when you adjust the brake for this truck to sway from that .015 of an inch clearance figure a bit to get equal clearance between the inner and outer shoes and the brake drum.

On your G758 Jeep—before you start adjusting, the cotter pin and stop plate (anchor stop pin) have to be removed. You can turn the anchor pin only to one of two positions 180 degrees apart because of the position the stop plate takes when it's installed. So, your adjustment is limited to .015 of an inch toward or away from the brake drum.

WHATZZIT ANSWER



It's the computing sight M38 (T154) for the twin 40-mm guns on the M4E1 mount, M42 vehicle. Exercise the sight at least once a week.

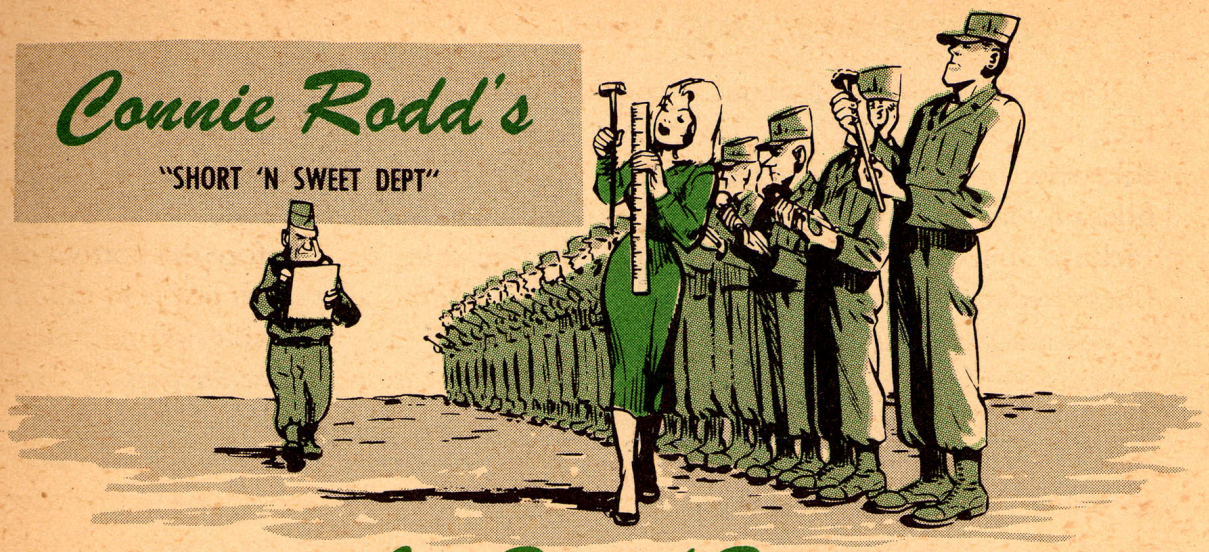
Never fool with the sight or the mount without removing the sight's outside canvas or plastic cover.

Exercise by turning the speed knobs from 0 to 700-MPH, the dive-climb bail to its maximum, and rotating the computer head a couple of revolutions by turning the course knob.

Never try to take the computing sight apart for repairs or lubing—she's too delicate. Keeping her exercised and covered when not in use is your maintenance job.

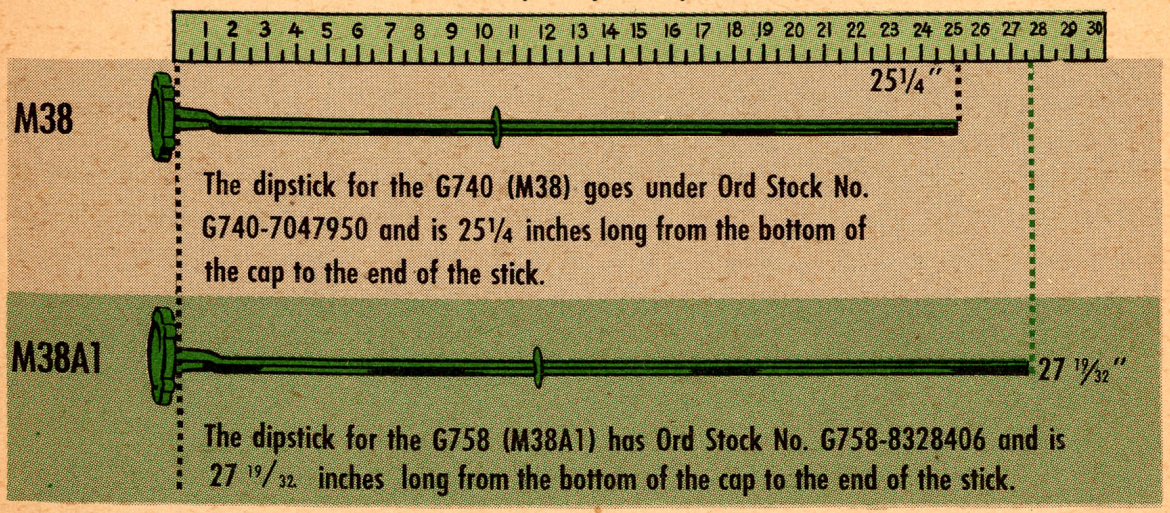
Connie Rodd's

"SHORT 'N SWEET DEPT"



Jeep Dipstick Duo

There still seems to be some confusion about which dipstick to use in the G740 Jeep and which to use in the G758. The dipsticks for these two Jeeps just can't be switched, and don't let anybody tell you different.



They may look alike, but that's all.

You can't put the G758 stick into the G740—it's just too long and won't fit. The trouble comes along when you put the G740 stick into the G758—this can be done and gives you a wrong reading. The full mark on this gives you a high oil level and causes your engine to waste oil.

One way your outfit can be sure is to get all their G740 sticks together and paint the caps some noticeable color. Leave the G758 sticks be—then you'll be able to tell which is which at a glance.

Get dat dope out

The dope I'm talking about is commercial chassis grease that may have been shot into the steering gear assemblies of your ½-ton Model 3184 Chevy Pickups and in some of those 1956 Chevy sedans at the factory.

The first sign that something's wrong is when the bearing and bushing freeze up. If the grease is left in for a longer time, the gears'll start fouling. You see, what happens is that the chassis grease is thrown up against the steering gear assembly's wall when the gears turn. The grease sticks there in wads, something like glue. These gears are designed to take an oil which'll lubricate them at all times. So, get the vehicle back to Ordnance before something like this happens, and have 'em check it out—just to make sure.

What they'll do if they find grease is to get it out of there and fill the box with either commercial multi-purpose gear oil or military universal gear lubricant (GO).

If you have this trouble with your vehicle, get a UER off. If the damage is already done your Ordnance support will see the local manufacturer's representative before the warranty period runs out.

Got a hole?

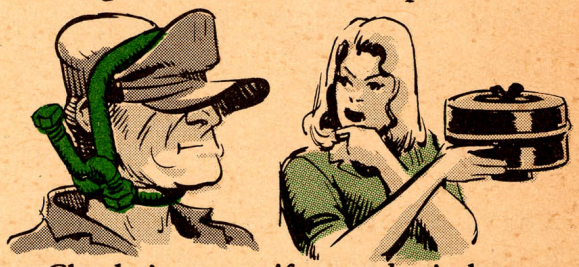
Some do, and some don't—have drain holes in the bottom of the door panels of their Model 424 2½-ton stake and platform trucks, that is.

Best thing to do before the bottom of those doors start to rust out is to take a peep under there. If you find no holes, drill two into the bottom part of that door — make 'em ¼-in.

Now, don't be fooled by any weatherstripping under there. Could be the holes are there, but are covered by this stripping. If so, loosen the stripping and pry open the holes. If need be, you can go ahead and cut that weatherstripping away from the holes, so drainage'll be free and easy.

A case for brace

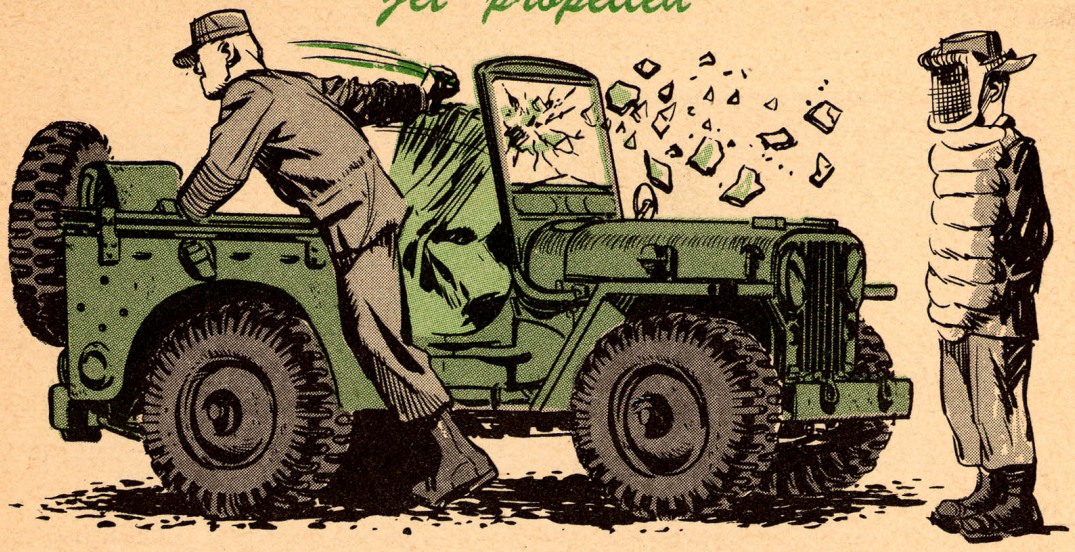
If the carburetor air cleaners on your F-100 ½-ton Ford pickups have been flipping, there's probably a good reason for it—you may not have a brace holding that air cleaner in place.



Check 'er out—if you don't have a brace you or your Ordnance support can get one from your local Ford dealer on local purchase.

Just ask him for one, Brace, air cleaner, carburetor, Part No. B6A-9663-A. Use SB 9-60 and SR 715-110-50 as your authority for buying.

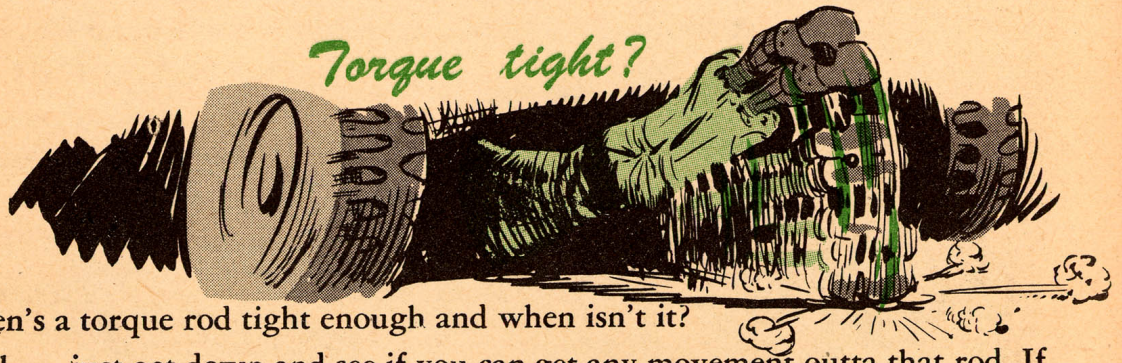
Jet propelled



Cases of busted windshields in the M38 and M38A1 Jeeps have been popping up. Reason? Guys crawling into that back seat are swinging the assistant driver's seat forward with all their might—right into the windshield.

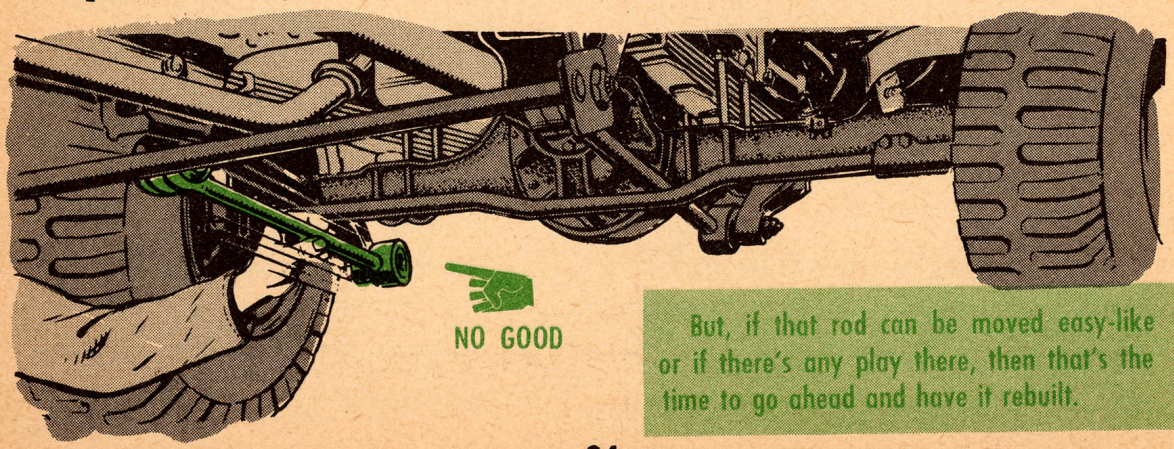
So, take some caution, please. When you go to crawl into the rear end of that Jeep, hold onto that assistant driver's seat and don't send it flying forward like a jet. Could mean a statement of charges.

Torque tight?



When's a torque rod tight enough and when isn't it?

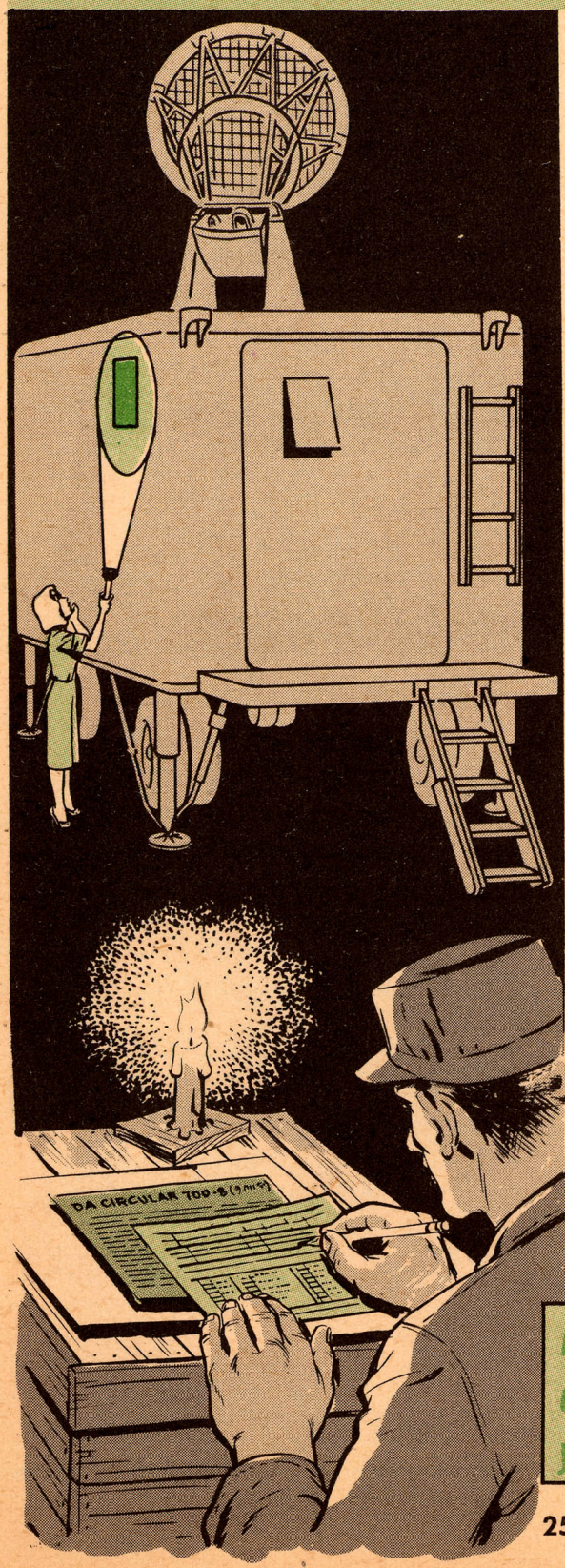
Well . . . just get down and see if you can get any movement outta that rod. If she doesn't move — or if she moves a bit, but it takes a lot of sweat, strength and oomph to do it — you haven't got a thing to worry about. She's OK.



But, if that rod can be moved easy-like or if there's any play there, then that's the time to go ahead and have it rebuilt.

Minutes Well Spent Filling Out Your—

ELECTRONIC FAILURE REPORT



It'd pay you AA shooters in 75-mm, 90-mm and 120-mm outfits to get to know AR 700-39 real good. The AR is the one that tells you how to fill out DD Form 787—the Electronic Failure Report.

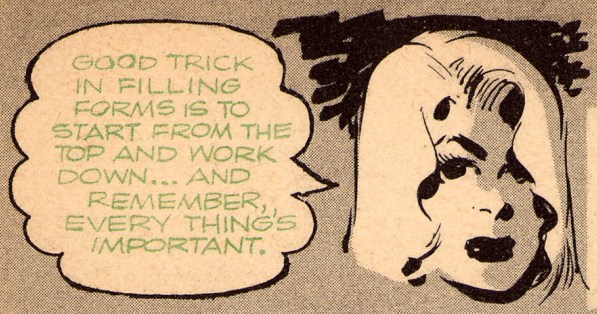
There's another electronic failure report—DD Form 787-1—but that's the one used by the Signal Corps for their equipment. Ordnance and AA outfits don't use that form.

When you send in a 787, it doesn't get shoved into some dark corner. No, sir. Ordnance checks it against others to see what electronic parts are fouling up and how often. All the checking helps 'em find out why things aren't working right. And the faster you send in the reports, (weekly is a good idea) the quicker Ordnance can get rid of the bugs. See DA Circular 700-8 (9 Apr 57).

In other words, those reports are important. So Ordnance wants all the poop possible. 'Course... there are some things Ordnance can do without, and we'll go into that.

Turn the page for a free sample. It's a report that a 90-mm battery would send in. Let's breeze through it.

First—you make this form out in duplicate—send one copy in and you keep the carbon copy.



Space 2—Shoot the works on this one by including both your battery and battalion designation.

REPORT THE FAILURE OF ONLY ONE PART OR

1. REPORT NO.	2. REPORTING ACTIVITY
	B Btry,20th AA Bn

5. EQUIPMENT INSTALLED IN (TYPE AND NO.)

\- - - -

Space 1—Ordnance'll fill in this. You can do the same thing on your own copy for your records.

Space 5—Put a few dashes in this space. The info applies only to Signal equipment.

The next four spaces refer to the overall equipment.

Space 9—Darn important. It's either the M33C, M33D or M38 FCS.

EQUIPMENT	9. MODEL DESIGNATION AND MOD. NO.
	AAFCS-M33C

Space 10—Don't leave blank. Ordnance wants the serial number of the system that shows up in space 9.

The following four spaces are for info on the major unit—like the computer,

Space 13—A must. Identify the major unit. That'll be enough for this space.

COMPONENT (MAJOR UNIT)	13. MODEL DESIGNATION AND MOD. NO.
	Computer

Space 14—Make sure you fill 'er out. Only remember: You use the Federal Stock Number or the Ord Stock Number for Ordnance components. The serial number is for Signal stuff.

The next three spaces refer to what you might call the main parts of the major

Space 17—Fill in, sure enough. The name of the assembly or sub-assembly is what Ordnance wants.

ASSEMBLY OR SUBASSEMBLY	17. ASSEMBLY AND MOD. NO.
	Computer D.C. Amplifier

Space 18—Supply the info. It's like space 14—you use the Federal Stock Number or the Ord Stock Number since the serial number is for guys talking about a Signal part.

The spaces in the next two lines on the report mean we're getting down to cases.

Space 21—Ordnance wants this, but yes.

Space 22—Another important space that needs filling. Use the Ord Stock Number if you don't know the Federal Stock Number.

Space 25—Another one that's best left blank if you're not sure of the correct info. Better to leave it blank than put in a guess.

PART DATA	21. PART NAME OR TUBE TYPE	22. STOCK NO. (FAILED ITEM)
	5687	FSN 5960-193-5
	25. HOURS IN SERVICE	26. MANUFACTURER OF FAILED PART
	250	Tung Sol

Space 26—Ordnance wants this if you have it.

Space 29—Darn important.

Space 30—Same thing . . . a must.

Space 33—This is the place where you add any info you think might help Ordnance. It's also the spot you do a little explaining in case you check the box marked "other" in spaces 29, 30 and 31. If you check an "other" box without telling why, you're setting up the boys for a hair-tearing session.

29. FIRST INDICATION OF TROUBLE			30. CHECK TYPE(S) OF TUBE OR PART FAILURE					
1		INOPERATIVE	007		ARCING	001		GAS
2		INTERMITTENT	710		BEARING FAILURE	300		GRO
3	X	LOW PERFORMANCE	780		BENT	380		LEA
4		NOISY	040		BINDING	730		LOO
5		OFF FREQUENCY	070		BROKEN	004		LOS
6		OUT OF ADJUSTMENT	720		BRUSH FAILURE	750		MIS
7		OVERHEATING	080	X	BURNED OUT	008		NOI
8		UNSTABLE	130		CHANGED VALUE	450		OPE
9		OTHER	170		CORRODED	099		OTH

33. REMARKS *(Continue on reverse side if necessary)*

DD FORM 1 AUG 54 787

Space 1—Ordnance'll fill in this. You can do the same thing on your own copy for your records.

Space 2—Shoot the works on this one by including both your battery and battalion designation.

Space 5—Put a few dashes in this space. The info applies only to Signal equipment.

REPORT THE FAILURE OF ONLY ONE PART OR

1. REPORT NO.	2. REPORTING ACTIVITY
	B Btry,20th AA Bn
5. EQUIPMENT INSTALLED IN (TYPE AND NO.)	
- - - -	

The next four spaces refer to the overall equipment.

Space 9—Darn important. It's either the M33C, M33D or M38 FCS.

Space 10—Don't leave blank. Ordnance wants the serial number of the system that shows up in space 9.

EQUIPMENT	9. MODEL DESIGNATION AND MOD. NO.
	AAFCS-M33C

The following four spaces are for info on the major unit—like the computer,

Space 13—A must. Identify the major unit. That'll be enough for this space.

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COMPONENT (MAJOR UNIT)	13. MODEL DESIGNATION AND MOD. NO.
	Computer

The next three spaces refer to what you might call the main parts of the major

Space 17—Fill in, sure enough. The name of the assembly or sub-assembly is what Ordnance wants.

Space 18—Supply the info. It's like space 14—you use the Federal Stock Number or the Ord Stock Number since the serial number is for guys talking about a Signal part.

ASSEMBLY OR SUBASSEMBLY	17. ASSEMBLY AND MOD. NO.
	Computer D.C. Amplifier

The spaces in the next two lines on the report mean we're getting down to cases.

Space 21—Ordnance wants this, but yes.

Space 22—Another important space that needs filling. Use the Ord Stock Number if you don't know the Federal Stock Number.

Space 25—Another one that's best left blank if you're not sure of the correct info. Better to leave it blank than put in a guess.

Space 26—Ordnance wants this if you have it.

PART DATA	21. PART NAME OR TUBE TYPE	22. STOCK NO. (FAILED ITEM)
	5687	FSN 5960-193-5
	25. HOURS IN SERVICE	26. MANUFACTURER OF FAILED PART
	250	Tung Sol

Space 29—Darn important.

Space 30—Same thing . . . a must.

Space 33—This is the place where you add any info you think might help Ordnance. It's also the spot you do a little explaining in case you check the box marked "other" in spaces 29, 30 and 31. If you check an "other" box without telling why, you're setting up the boys for a hair-tearing session.

29. FIRST INDICATION OF TROUBLE		30. CHECK TYPE(S) OF TUBE OR PART FAILURE			
1	INOPERATIVE	007		ARCING	001	GA
2	INTERMITTENT	710		BEARING FAILURE	300	GR
3	X LOW PERFORMANCE	780		BENT	380	LE
4	NOISY	040		BINDING	730	LO
5	OFF FREQUENCY	070		BROKEN	004	LO
6	OUT OF ADJUSTMENT	720		BRUSH FAILURE	750	MI
7	OVERHEATING	080	X	BURNED OUT	008	NO
8	UNSTABLE	130		CHANGED VALUE	450	OP
9	OTHER	170		CORRODED	095	OT

33. REMARKS (Continue on reverse side if necessary)

DD FORM 1 AUG 54 **787**

Space 3—Include the MOS along with your name.

Space 4—Make it complete—the month, day and year.

Space 8—If your equipment was working, tell how it was doing . . . like "Excellent," "Good," "Fair," or "Poor."

Space 7—You should know if the failure threw the whole system outta whack. But the space can be left blank.

TUBE ON THIS FORM REPORTS CONTROL SYMBOL CSGLD-803

3. REPAIRED OR REPORTED BY (NAME)	4. DATE OF FAILURE
SP3 Arthur Browne (213,30)	Jan. 7 1957
6. TIME METER READING OR INSTALLATION LOG TIME	7. WAS MISSION ABORTED? YES / NO	8. OPERATIONAL CONDITION
4000 hrs.	X NO	Good

Space 6—This refers to the entire M33C FCS. If you don't know the exact time, estimate it. If you don't want to make an estimate, write in "Unknown" or "Not Available." Same thing with the M33D FCS. No sweat with the M38 since it has a meter reading.

acquisition antenna, tracking antenna and so on down the line.

Space 11—OK to leave blank, unless you know the name.

Space 12—You can leave this blank, too, if you don't know the number.

10. SERIAL NO.	11. CONTRACTOR	12. CONTRACT OR ORDER NO.
418	Western Electric Company	W-30-069-4480

Space 15—All right to leave blank if you don't know the name of the contractor.

Space 16—Ditto.

14. SERIAL NO.	15. CONTRACTOR	16. CONTRACT OR ORDER NO.
R342 7604074	Western Electric Company	Not available

unit.

Space 19—It's OK if you leave this blank.

Space 20—Like it says, leave blank.

18. SERIAL NO.	19. MANUFACTURER	20. (LEAVE BLANK)
R342 7614305	Western Electric Company	

They refer to the thing that actually gave up the ghost.

Space 23—This scoop is needed. You'll find the info stamped on the chassis on which you're replacing the part.

Space 24—If you know, fine. No know, leave blank.

L36	23. PART REF. DESIG (V,101,R,101, ETC.)	24. REPAIR TIME MAN-HOURS
	V-5	One hour
	27. SERIAL NO.	28. WAS REPLACEMENT PART AVAILABLE LOCALLY
	None	X YES / NO

Space 27—Give the serial number if it's available.

Space 28—No problems here.

SSY		790		OUT OF ADJUST.	31. CAUSE OF FAILURE	
UNDED		006		SHORTED	2	FAULTY PACKAGING
AKAGE		770		SLIP RING OR COMMUTATOR FAILURE	5	MISHANDLING
OSE		018		TESTED OK DID NOT WORK	6	INSPECTION OR TEST
M OR EMISSION					1 X	NORMAL OPERATION
SSING		020		WORN EXCESSIVELY	3	STORAGE
ISY					7	ASSOCIATED FAILURE-EXPLAIN
ON				SEE AR 700-38 FOR ADDITIONAL CODES FOR ARMY USE ONLY	4	OTHER
KER					32. WAS THE PART REPLACED DURING PREVENTIVE MAINTENANCE? X YES / NO	

Space 31—Be an "Honest Abe."

Space 32—You should know the answer to this.

ELECTRONIC FAILURE REPORT

☆GPO O—55 346990

Space 3—Include the MOS along with your name.

Space 4—Make it complete—the month, day and year.

Space 8—If your equipment was working, tell how it was doing . . . like "Excellent," "Good," "Fair," or "Poor."

TUBE ON THIS FORM — REPORTS CONTROL SYMBOL CSGLD-803

3. REPAIRED OR REPORTED BY (NAME)	4. DATE OF FAILURE
SP3 Arthur Browne (213,30)	Jan. 7 1957

6. TIME METER READING OR INSTALLATION LOG TIME	7. WAS MISSION ABORTED?	8. OPERATIONAL CONDITION
4000 hrs.	[ ] YES [X] NO	Good

Space 7—You should know if the failure threw the whole system outta whack. But the space can be left blank.

Space 6—This refers to the entire M33C FCS. If you don't know the exact time, estimate it. If you don't want to make an estimate, write in "Unknown" or "Not Available." Same thing with the M33D FCS. No sweat with the M38 since it has a meter reading.

10. SERIAL NO.	11. CONTRACTOR	12. CONTRACT OR ORDER NO.
418	Western Electric Company	W-30-069-4480

Space 11—OK to leave blank, unless you know the name.

Space 12—You can leave this blank, too, if you don't know the number.

acquisition antenna, tracking antenna and so on down the line.

14. SERIAL NO.	15. CONTRACTOR	16. CONTRACT OR ORDER NO.
F342 7604074	Western Electric Company	Not available

Space 15—All right to leave blank if you don't know the name of the contractor.

Space 16—Ditto.

unit.

18. SERIAL NO.	19. MANUFACTURER	20. (LEAVE BLANK)
F342 7614305	Western Electric Company	

Space 19—It's OK if you leave this blank.

Space 20—Like it says, leave blank.

They refer to the thing that actually gave up the ghost.

Space 23—This scoop is needed. You'll find the info stamped on the chassis on which you're replacing the part.

Space 24—If you know, fine. No know, leave blank.

L36	23. PART REF. DESIG. (V-101, R-101, ETC.)	24. REPAIR TIME (MAN-HOURS
	V-5	One hour

27. SERIAL NO.	28. WAS REPLACEMENT PART AVAILABLE LOCALLY
None	[X] YES [ ] NO

Space 27—Give the serial number if it's available.

Space 28—No problems here.

				31. CAUSE OF FAILURE	
SSY	790	[ ]	OUT OF ADJUST.	2 [ ]	FAULTY PACKAGING
UNDED	006	[ ]	SHORTED	5 [ ]	MISHANDLING
AKAGE	770	[ ]	SLIP RING OR COMMUTATOR FAILURE	6 [ ]	INSPECTION OR TEST
OSE				1 [X]	NORMAL OPERATION
V GM OR EMISSION	018	[ ]	TESTED OK DID NOT WORK	3 [ ]	STORAGE
SSING				7 [ ]	ASSOCIATED FAILURE-EXPLAIN
ISY	020	[ ]	WORN EXCESSIVELY	4 [ ]	OTHER
EN		[ ]	SEE AR 700-39 FOR ADDITIONAL CODES (FOR ARMY USE ONLY)		
HER					

Space 31—Be an "Honest Abe."

32. WAS THE PART REPLACED DURING PREVENTIVE MAINTENANCE? [X] YES [ ] NO

Space 32—You should know the answer to this.

ELECTRONIC FAILURE REPORT

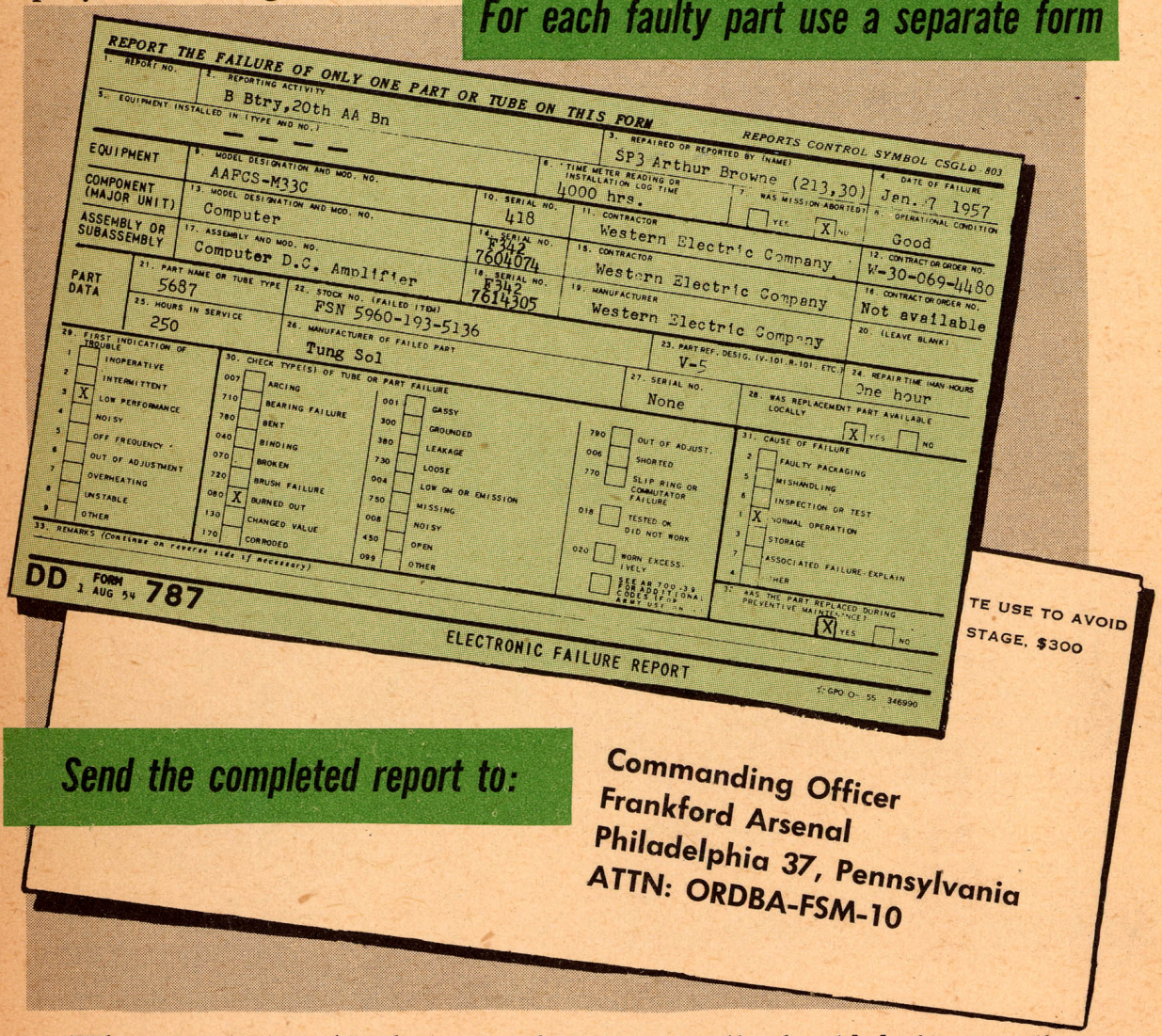
☆GPO O—55 346990

Now that we're out of spaces, let's go over a coupla more things.

When filling out the report, remember two of the three "R's" you learned, way back when. Careful-like..."Read" the numbers and other info on equipment and in publications. Then "Rite" it down in the report so's everyone can understand it.

It's all right to abbreviate some things—like WECO for Western Electric Company. But don't go overboard.

For each faulty part use a separate form


REPORT THE FAILURE OF ONLY ONE PART OR TUBE ON THIS FORM

REPORTS CONTROL SYMBOL CSGLD-803

1. REPORT NO.
2. REPORTING ACTIVITY: B Btry, 20th AA Bn
3. REPAIRED OR REPORTED BY (NAME): SP3 Arthur Browne (213,30)
4. DATE OF FAILURE: Jan. 7 1957
5. EQUIPMENT INSTALLED IN (TYPE AND NO.)
6. TIME METER READING OR INSTALLATION LOG TIME: 4000 hrs.
7. WAS MISSION ABORTED? YES [ ] NO [X]
8. OPERATIONAL CONDITION: Good

EQUIPMENT
COMPONENT (MAJOR UNIT): Computer
ASSEMBLY OR SUBASSEMBLY: Computer D.C. Amplifier

9. MODEL DESIGNATION AND MOD. NO.: AAPCS-M33C
10. SERIAL NO.: 418
11. CONTRACTOR: Western Electric Company
12. CONTRACT OR ORDER NO.: W-30-069-480
13. MODEL DESIGNATION AND MOD. NO.
14. SERIAL NO.: F342 7604074
15. CONTRACTOR: Western Electric Company
16. CONTRACT OR ORDER NO.: Not available
17. ASSEMBLY AND MOD. NO.
18. SERIAL NO.: F342 7614305
19. MANUFACTURER: Western Electric Company
20. (LEAVE BLANK)

PART DATA
21. PART NAME OR TUBE TYPE: 5687
22. STOCK NO. (FAILED ITEM): FSN 5960-193-5136
23. PART REF. DESIG. (V-101, R-101, ETC.): V-5
24. REPAIR TIME (MAN-HOURS): One hour
25. HOURS IN SERVICE: 250
26. MANUFACTURER OF FAILED PART: Tung Sol
27. SERIAL NO.: None
28. WAS REPLACEMENT PART AVAILABLE LOCALLY? YES [X] NO [ ]

29. FIRST INDICATION OF TROUBLE: [X] 3 LOW PERFORMANCE
30. CHECK TYPE(S) OF TUBE OR PART FAILURE: 080 [X] BURNED OUT
31. CAUSE OF FAILURE: [X] 1 NORMAL OPERATION
32. WAS THE PART REPLACED DURING PREVENTIVE MAINTENANCE? YES [X] NO [ ]
33. REMARKS (Continue on reverse side if necessary)

DD FORM 1 AUG 54 787

ELECTRONIC FAILURE REPORT

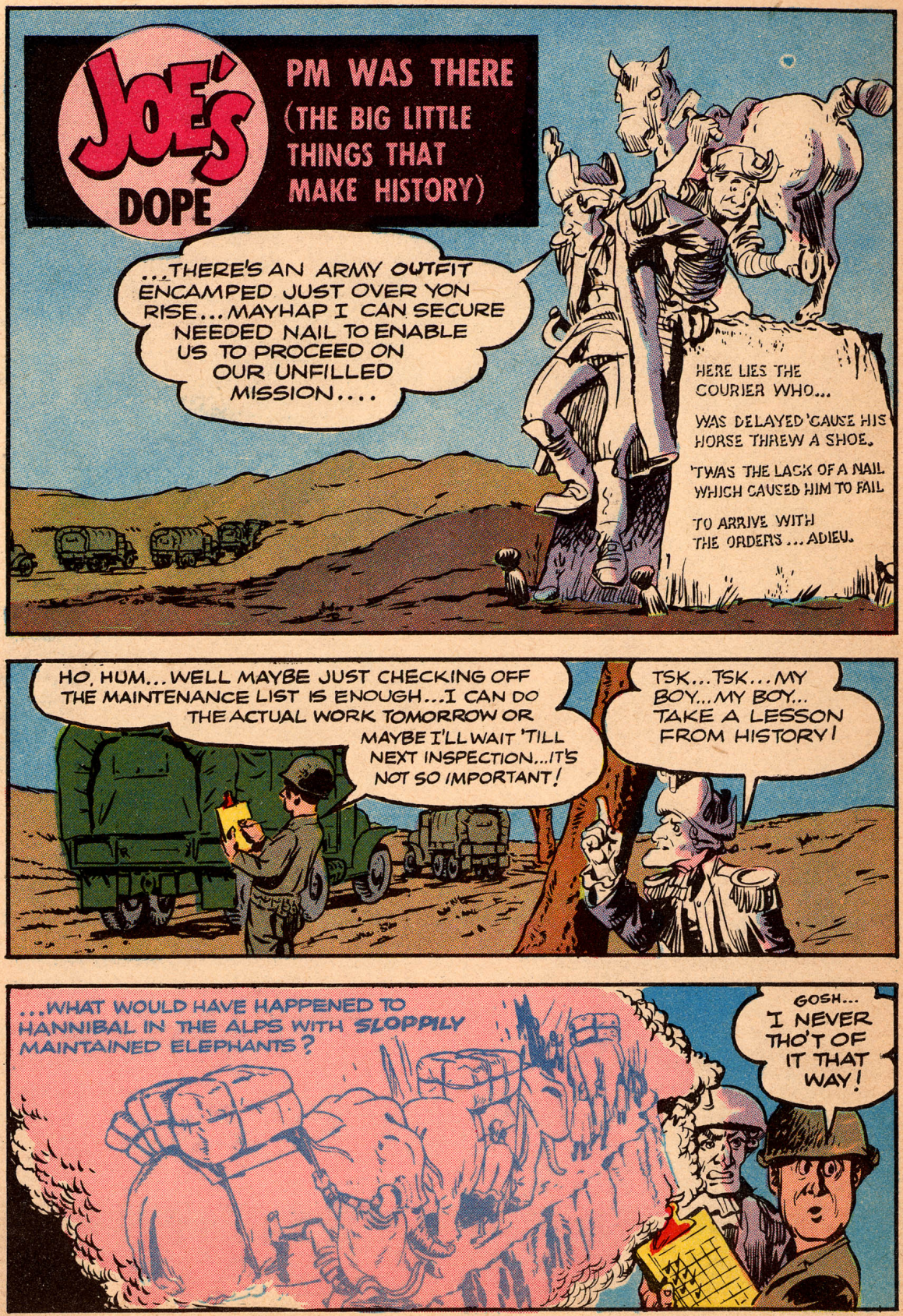
TE USE TO AVOID
STAGE. $300

Send the completed report to:

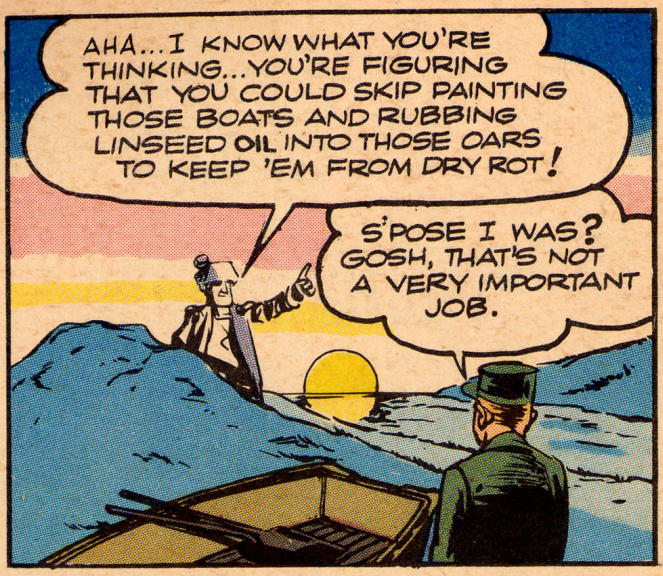
Commanding Officer
Frankford Arsenal
Philadelphia 37, Pennsylvania
ATTN: ORDBA-FSM-10

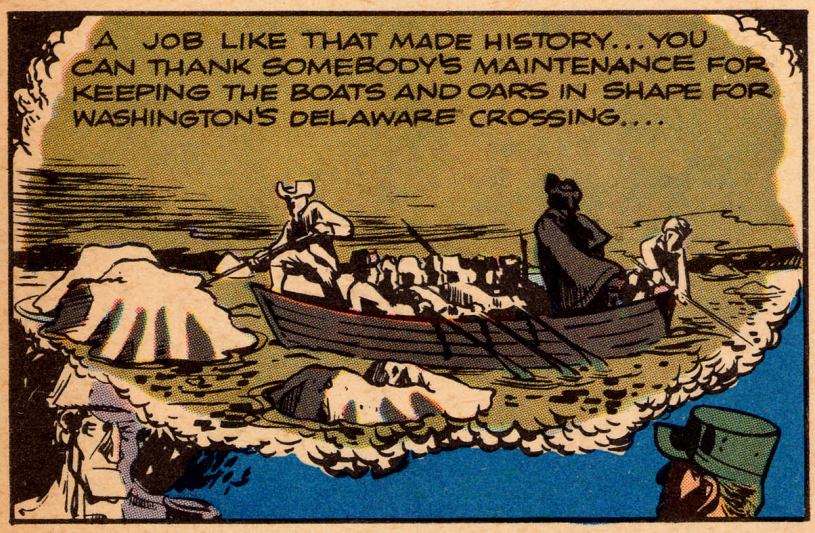
When you leave a blank space, what you actually should do is run a line or a coupla dashes across the space. This lets Ordnance know that you just haven't plain skipped the space.

Something else to keep in mind...whenever you have to send an entire electronic assembly back to the repair shop or depot, fill out and attach a DD Form 787 to the fouled-up part. The shop or depot guys will fill in the blank spaces you've left...and then send the report on to Frankford Arsenal. Then, everyone's happy.

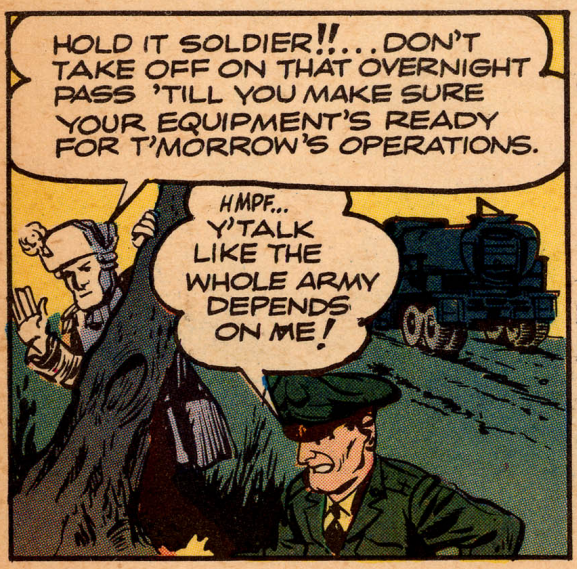

JOE'S DOPE
PM WAS THERE (THE BIG LITTLE THINGS THAT MAKE HISTORY)
...THERE'S AN ARMY OUTFIT ENCAMPED JUST OVER YON RISE... MAYHAP I CAN SECURE NEEDED NAIL TO ENABLE US TO PROCEED ON OUR UNFILLED MISSION....
HERE LIES THE COURIER WHO...
WAS DELAYED 'CAUSE HIS HORSE THREW A SHOE.
'TWAS THE LACK OF A NAIL WHICH CAUSED HIM TO FAIL
TO ARRIVE WITH THE ORDERS ... ADIEU.
HO, HUM... WELL MAYBE JUST CHECKING OFF THE MAINTENANCE LIST IS ENOUGH...I CAN DO THE ACTUAL WORK TOMORROW OR MAYBE I'LL WAIT 'TILL NEXT INSPECTION...IT'S NOT SO IMPORTANT!
TSK...TSK...MY BOY...MY BOY... TAKE A LESSON FROM HISTORY!
...WHAT WOULD HAVE HAPPENED TO HANNIBAL IN THE ALPS WITH SLOPPILY MAINTAINED ELEPHANTS?
GOSH... I NEVER THO'T OF IT THAT WAY!

I SAY, DO YOU HAVE A SPARE HORSESHOE NAIL??
NO TIME TO GO INTO IT, BUD....TRY, THE OUTFIT DOWN THERE. I'M GETTIN' RIGHT DOWN TO SOME BOLT TIGHTENING!


AHA...I KNOW WHAT YOU'RE THINKING...YOU'RE FIGURING THAT YOU COULD SKIP PAINTING THOSE BOATS AND RUBBING LINSEED OIL INTO THOSE OARS TO KEEP 'EM FROM DRY ROT!
S'POSE I WAS? GOSH, THAT'S NOT A VERY IMPORTANT JOB.

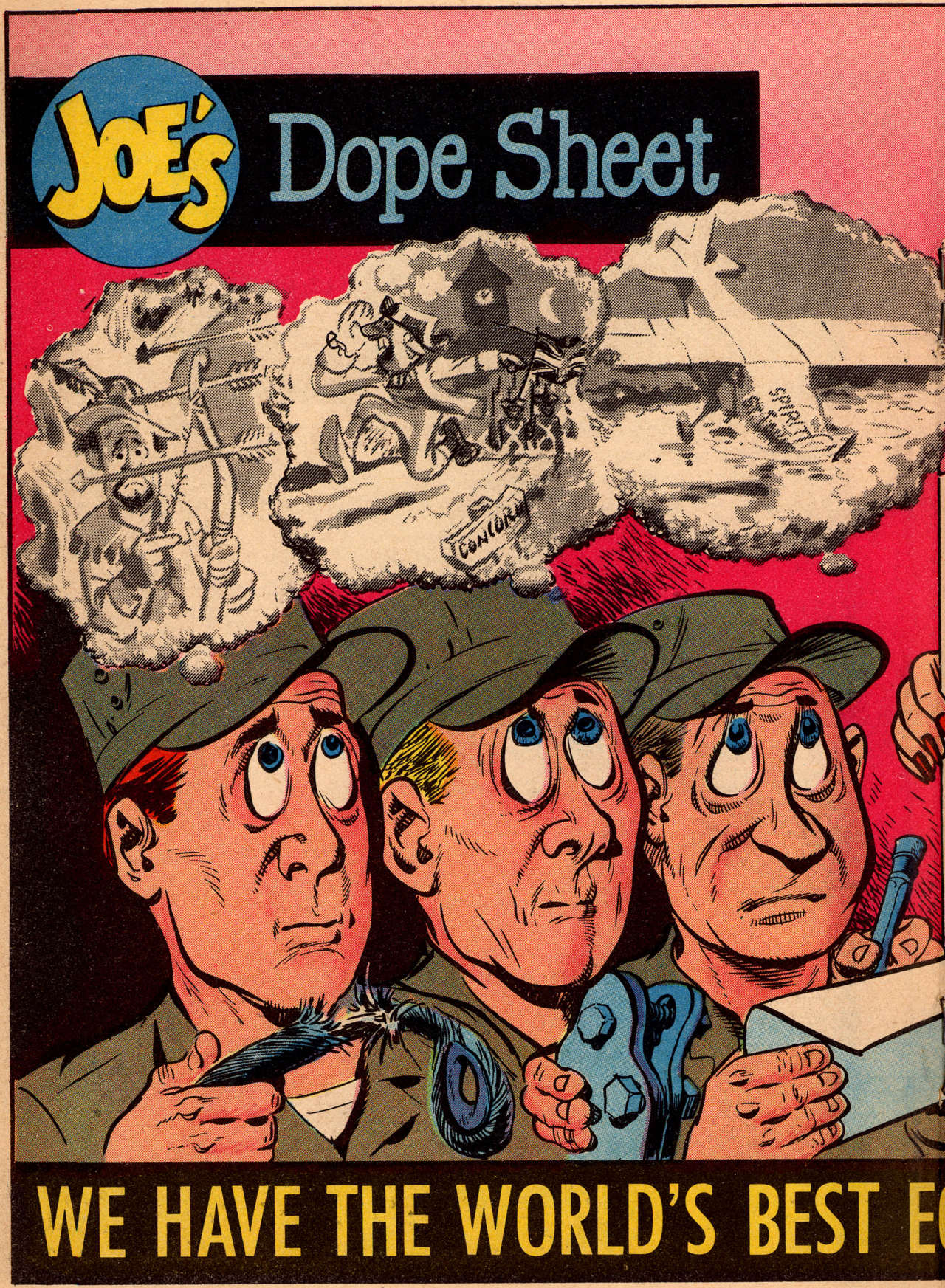

A JOB LIKE THAT MADE HISTORY...YOU CAN THANK SOMEBODY'S MAINTENANCE FOR KEEPING THE BOATS AND OARS IN SHAPE FOR WASHINGTON'S DELAWARE CROSSING....

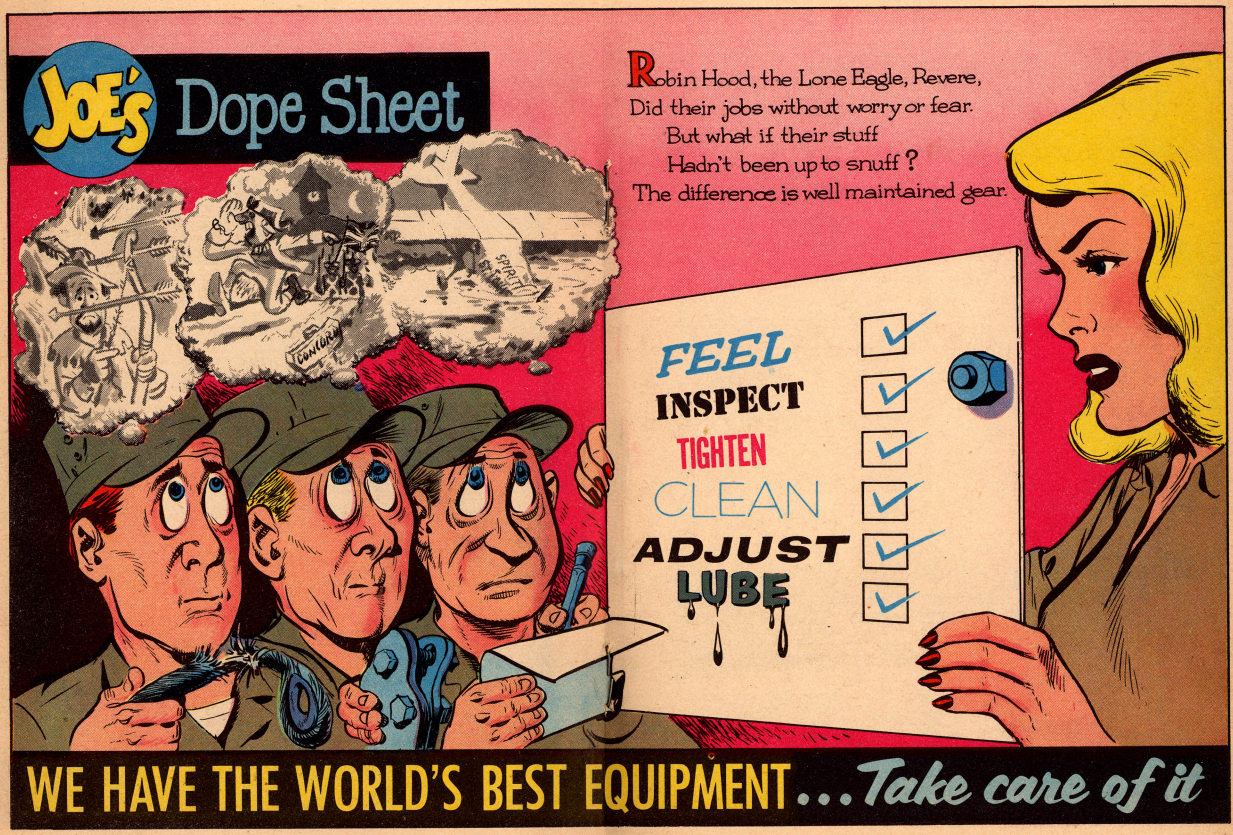
...NOW, ABOUT A HORSESHOE NAIL....HAVE YOU GOT....
TRY SOME ONE ELSE, I'M TOO BUSY... GOT A LOT OF PAINT AND OILING TO DO....


HOLD IT SOLDIER!!...DON'T TAKE OFF ON THAT OVERNIGHT PASS 'TILL YOU MAKE SURE YOUR EQUIPMENT'S READY FOR T'MORROW'S OPERATIONS.
HMPF... Y'TALK LIKE THE WHOLE ARMY DEPENDS ON ME!

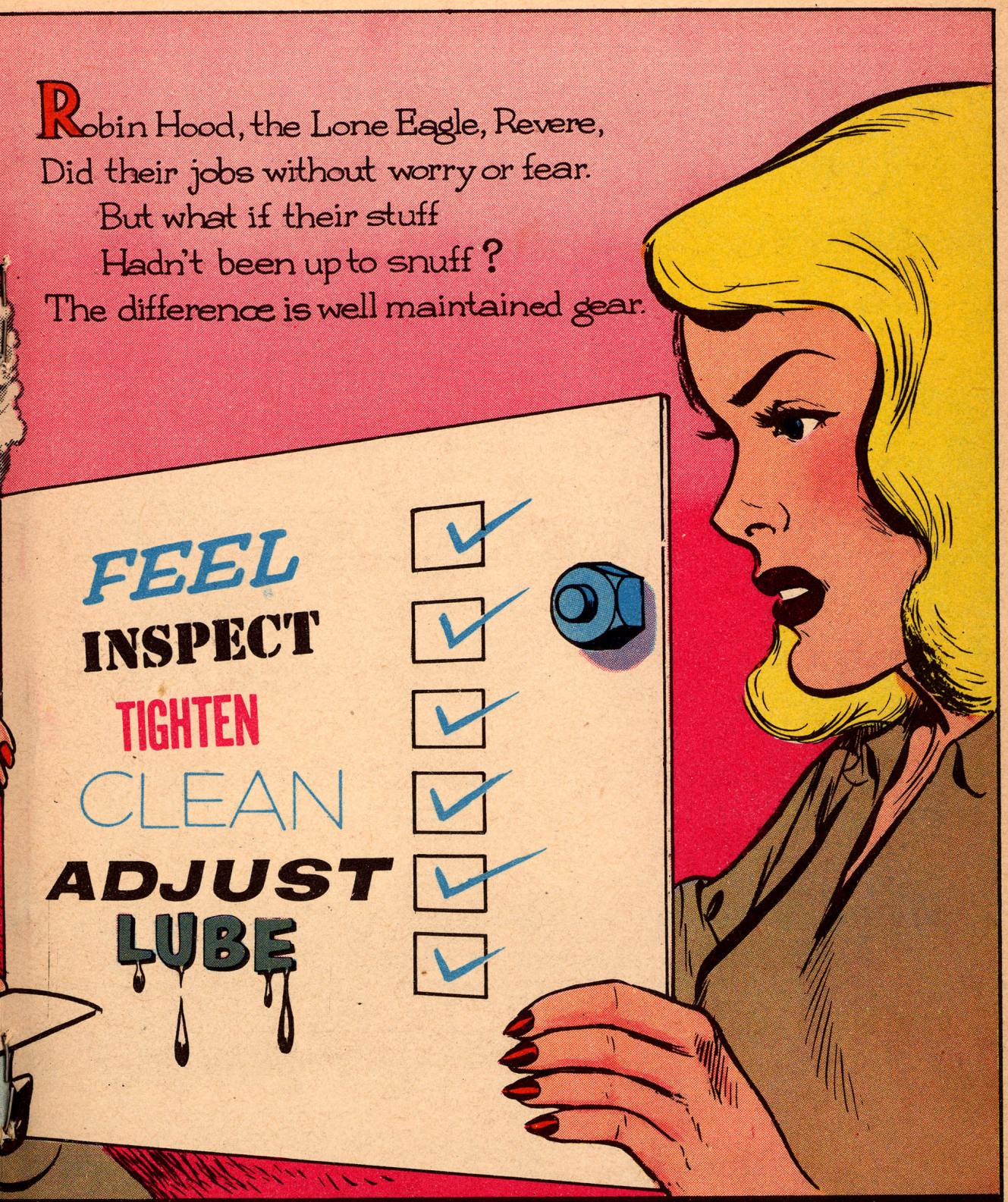
AFTER ALL...WHAT WOULD HAVE HAPPENED TO KING ARTHUR AND HIS ROUND TABLE IF THEIR SWORDS AND ARMOR HAD BEEN POORLY MAINTAINED?

That's the way it goes...with the if's, history might've come out all wrong. Without Preventive Maintenance, things might've changed.


JOE'S
Dope Sheet
CONTCRETE
WE HAVE THE WORLD'S BEST E


JOE'S Dope Sheet
Robin Hood, the Lone Eagle, Revere,
Did their jobs without worry or fear.
But what if their stuff
Hadn't been up to snuff ?
The difference is well maintained gear.
FEEL
INSPECT
TIGHTEN
CLEAN
ADJUST
LUBE
WE HAVE THE WORLD'S BEST EQUIPMENT... Take care of it

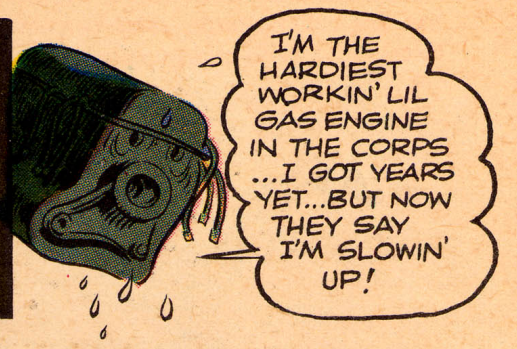
Robin Hood, the Lone Eagle, Revere,
Did their jobs without worry or fear.
But what if their stuff
Hadn't been up to snuff?
The difference is well maintained gear.

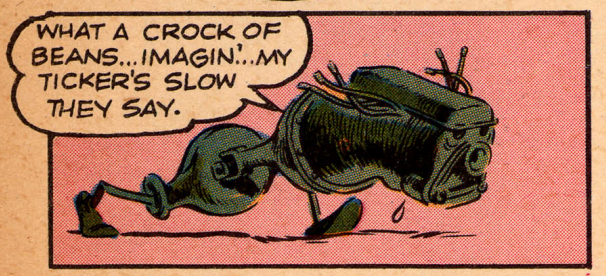


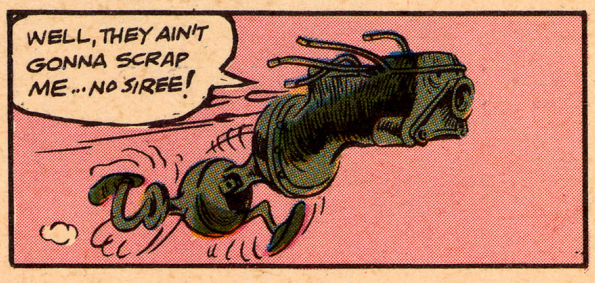
QUIPMENT... *Take care of it*

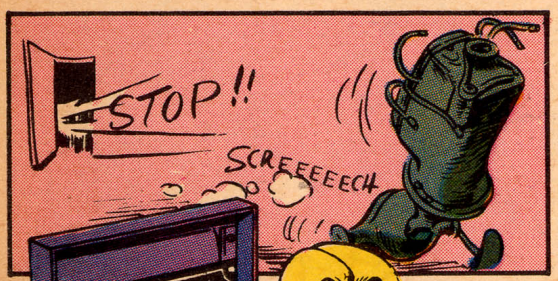
JOE'S DOPE

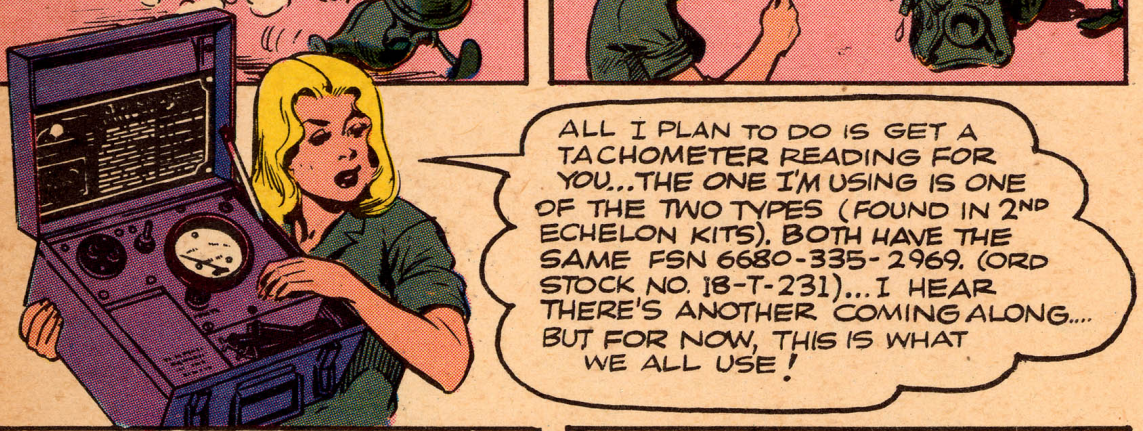
How to use your Electric Tachometer

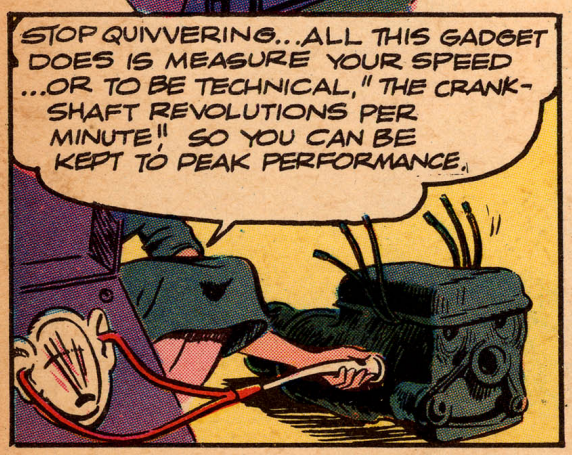


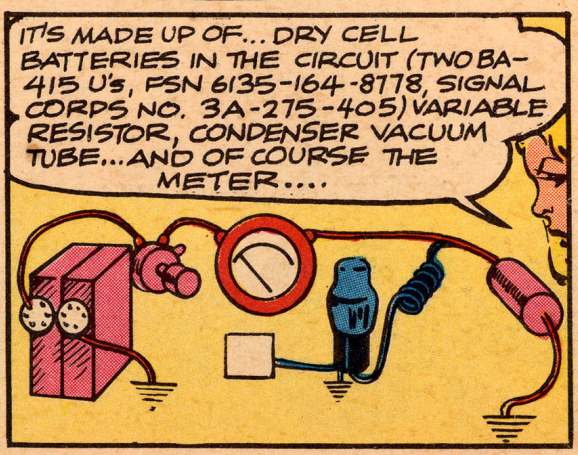




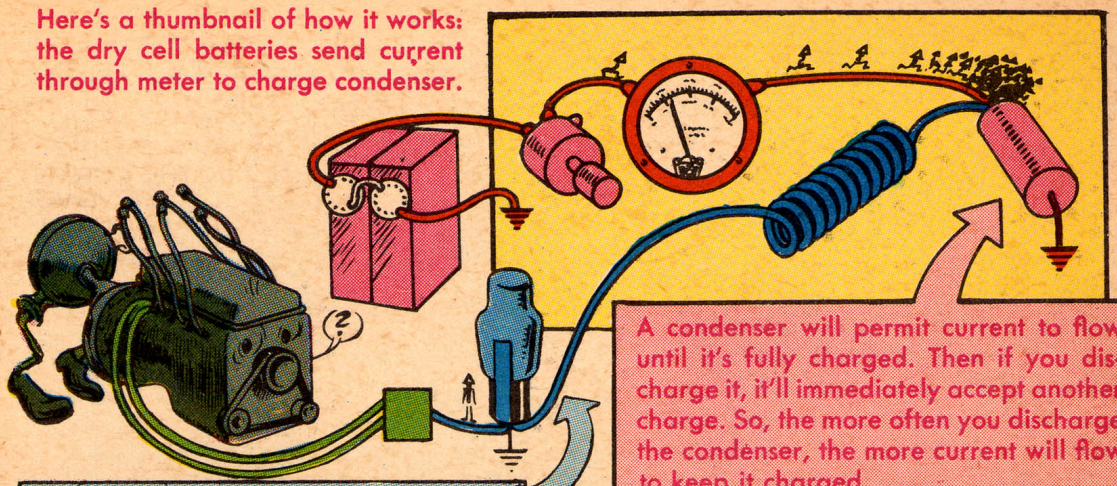








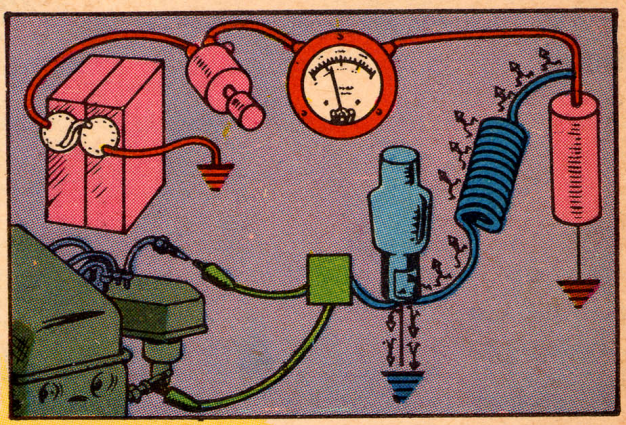
Here's a thumbnail of how it works: the dry cell batteries send current through meter to charge condenser.



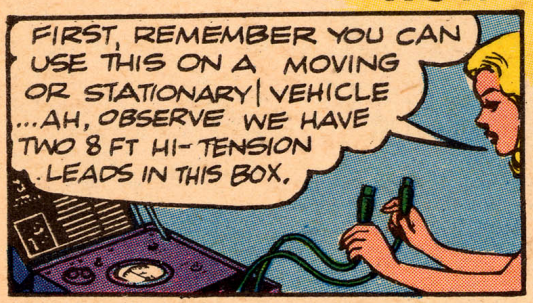
A condenser will permit current to flow until it's fully charged. Then if you discharge it, it'll immediately accept another charge. So, the more often you discharge the condenser, the more current will flow to keep it charged.

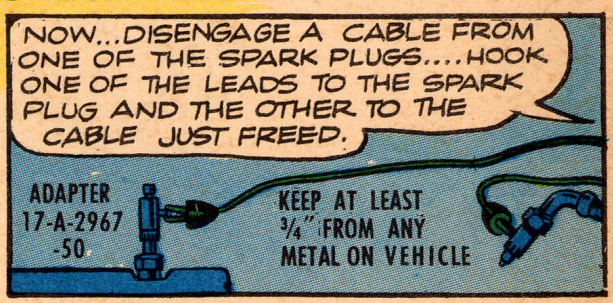
There's a discharge circuit, consisting of a vacuum tube and a secondary pick-up connected across the condenser.

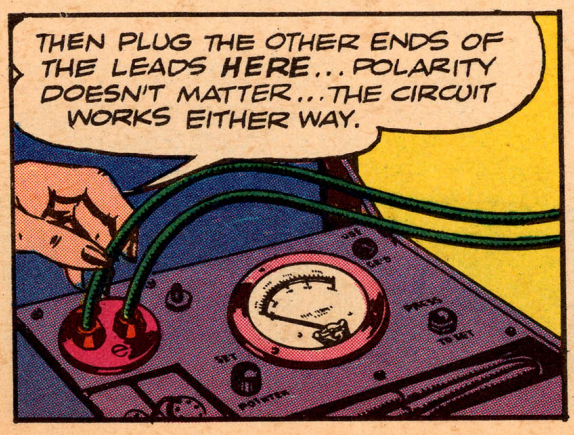
When a high tension impulse from the spark plug ionizes tube, the charge is let out of condenser. The faster your engine runs the more often this happens and the more current flows through the meter . . . which shows on the meter. All you do is calibrate the meter in RPM's.

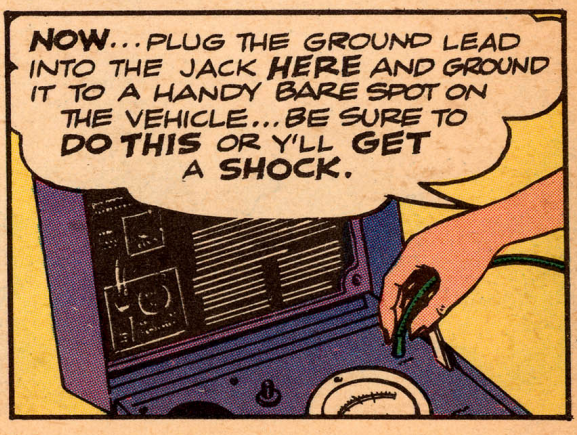


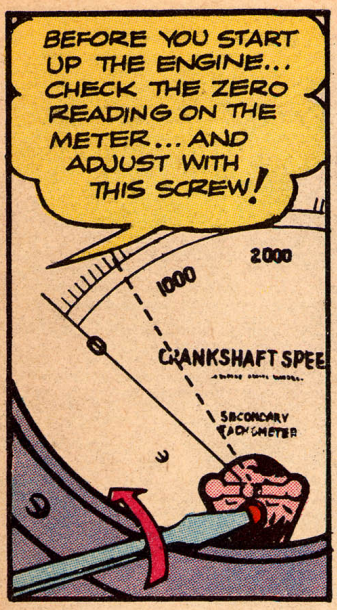
HOW TO USE IT...



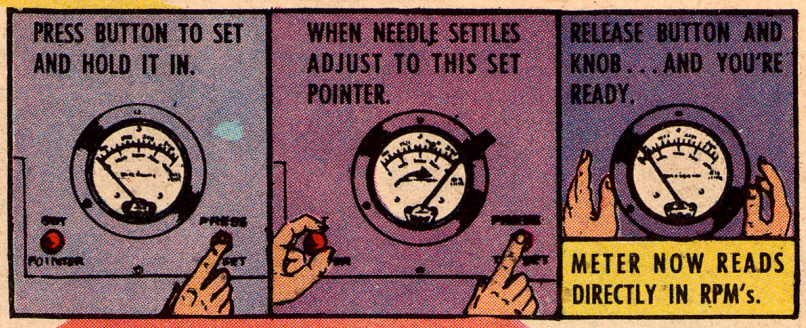








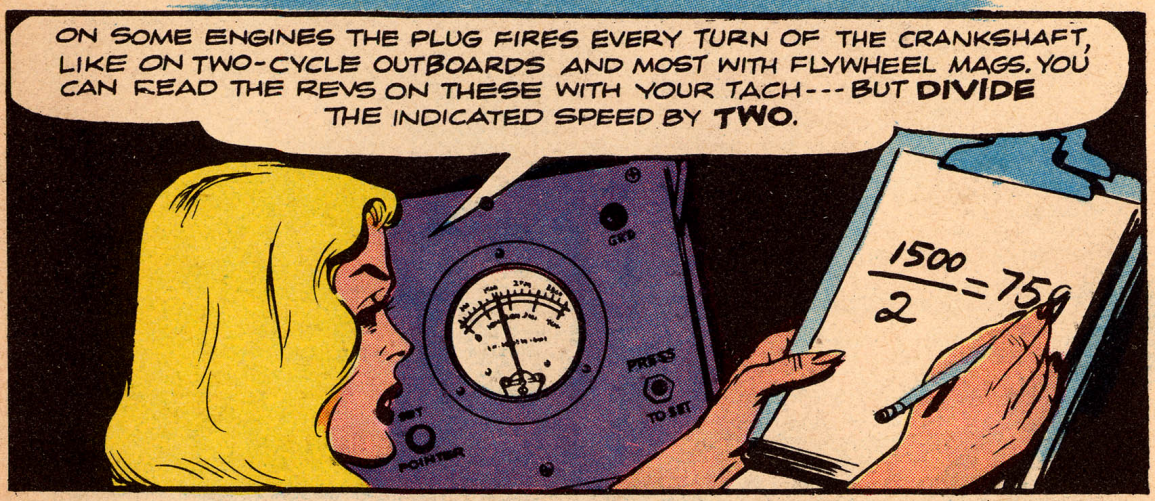
NOW START THE ENGINE AND DO THIS...



WHEN TO USE IT

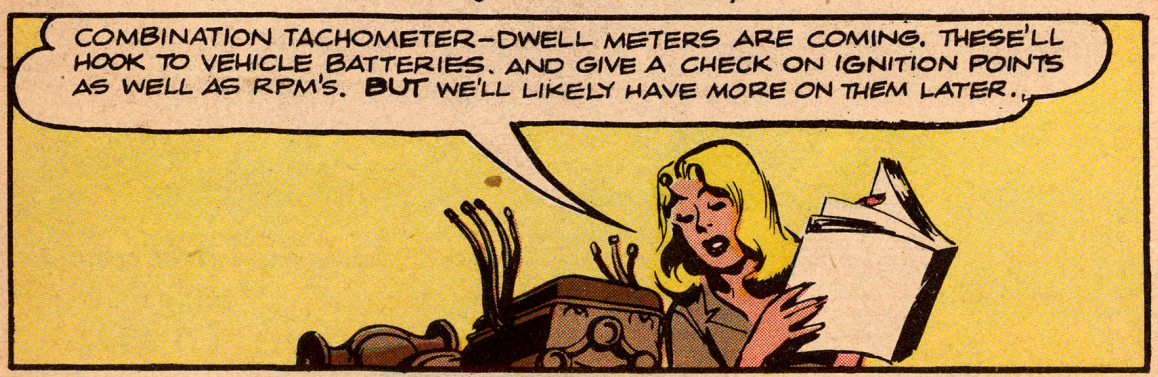
- ★ Adjusting idle speed on the M135 and other vehicles ...tactical and commercial.
- ★ If you're authorized to check governors this is mighty handy too...
- ★ On tactical and commercial vehicles—checks on transmission...use your TM's.

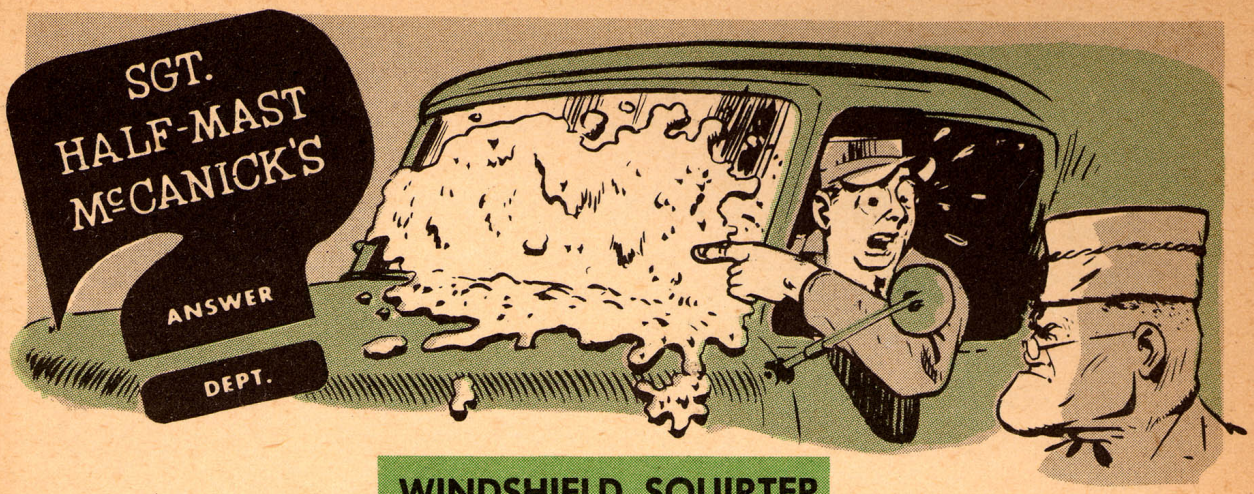
ON SPECIAL IGNITION SYSTEMS



The manufacturer's manual gives several tests using the tach in place of more common instruments. Like it might be helpful in running down a high-speed miss, f'instance.

Not all manufacturer's tachometers are exactly the same (though they have the same stock number). So check the zeroing instructions carefully.





WINDSHIELD SQUIRTER

Dear Half-Mast,

This Nike outfit has quite a few commercial-type vehicles that run over heavily-traveled roads. On a slushy day, the windshields on our trucks get pretty muddy and dirty from passing cars and trucks.

Tell me—has the Army adopted the windshield washers for its commercial vehicles like those on civilian cars and trucks?

CWO P. M.

Dear CWO P. M.,

You can get those windshield washers on local purchase if your CO thinks it's unsafe to operate your vehicles without them.

Here's what SB 9-143 (25 Sep 56) says on the subject: "Upon approval of installation or organization commanders, windshield washers may be installed on commercial-type general purpose vehicles when conditions warrant their use for the safe operation of such vehicles."

You can get 'em in kit form from your local dealers by using SB-9-60 and SR 715-110-50 as your authorization.

Half-Mast

FILTER FOLLIES

Dear Half-Mast,

Most of our new ½-ton Chevy pickup carburetors are fouling bad because of dirt. I've noticed that these trucks don't have fuel filters. Could this be what's wrong—and, if so, what filter should I use and how do I go about getting it?

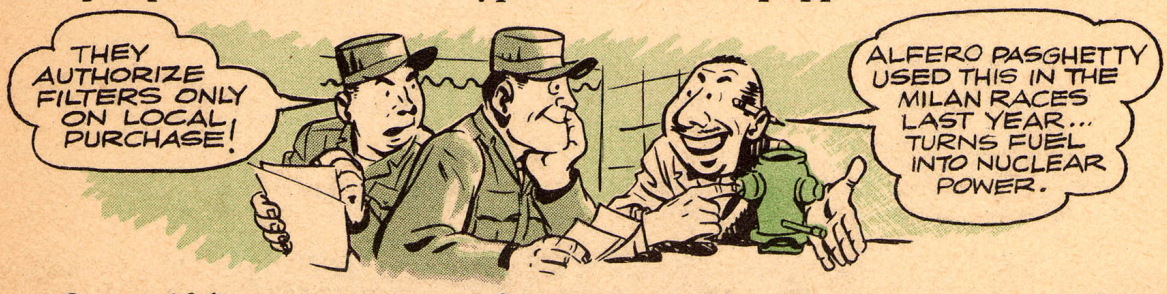
SSgt L. T. Y.

Dear SSgt L. T. Y.,

No fuel filter plus high-flying dirt and dust can sure cause carburetor trouble.

But, the fact is you're supposed to have a fuel filter. You can get 'em for all your commercial-type vehicles that don't have 'em under SB 9-141 (21 Aug 56).

This SB says, "This bulletin furnishes instructions for the procurement and installation of a ceramic-type fuel filter in the fuel line, between fuel tank and fuel pump, on **all commercial-type vehicles not equipped with a fuel filter.**"



So, you'd better get yours and put 'em on. This SB gives you two makes—a CAR-F21595 or an AC-1595831. Get them on local purchase, with your authorization being SB 9-60 and SR 715-110-50.

Half-Mast

DASH IT

Dear Half-Mast,

Can you please tell me if there is any directive that says you can go ahead and paint your truck's tire pressure on the dashboards in your tactical vehicles?

MSgt L. P. M.

Dear M Sgt L. P. M.,

Not only tells you that you can, but sez you must. The directive you're looking for is AR 746-2300-1 (29 Dec 55), para 16.

This paragraph deals with commercial vehicles as well as tactical. Here's what it says:

"The prescribed tire pressure will be stenciled on the dash of *all* motor vehicles, and in the case of trucks, also on the fenders and body over each wheel or other conspicuous location near the tires.

For towed vehicles and equipment, such stenciling will be located on the body or frame in a conspicuous location near the tires. This marking will be composed of the letters *'TP'* followed by the number representing the pressure, and will be applied in block letters and numerals, 1-in high, and in the same color as the registration markings."

Which all means—yes, tire pressure's gotta be put, not only on the dash, but also near each tire.

Artists—rise and shine. You've gotta job.

Half-Mast

BATTERY CLEANING

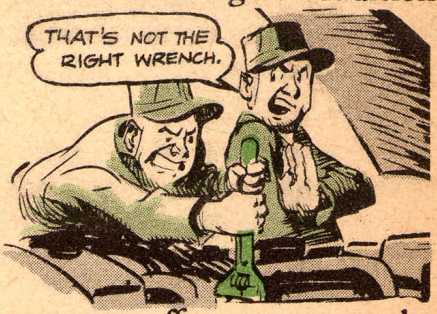
Dear Half-Mast,

What's the score on cleaning batteries? Some say the driver does it, some say the second echelon shop does it. Me, I don't know.

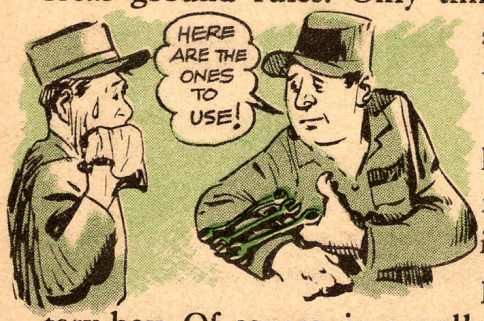
'Mr. P. R. P.

Dear Mr. P. R. P.,

Whoa now, friend! I'm not going to take sides in that little fight. Tradition and custom says that the driver does the cleaning on his vehicle. But, if a driver goes to pulling his batteries with the 10-in crescent wrench from his OVM tool roll, he'll burr the clamp nuts and louse things up for sure. On the other hand, most motor pool shops are flat out with work as it is, keeping up the services.



Looks to me like it's up to the motor sergeant or motor officer to set up the local ground rules. Only thing sure, if the job is given to the driver, the shop has got to provide him with the proper wrenches to remove the battery.



Some outfits leave it up to the driver to rinse his batteries every time he washes the truck, but rinse 'em in place. Then when the truck comes into the shop for a *C* or *D* service, the shop crew pulls the batteries and cleans and paints the battery box. Of course, in a well-run shop, the driver comes in with his truck and helps service it anyway.

The biggest thing to watch out for is to be sure the battery is cleaned with water and sodium bicarbonate **only** — never with thinner, solvent or gasoline. These will dissolve the sealing compound and tend to soften the case.

You can draw sodium bicarbonate under FSN 6810-264-6618. It's a Chemical Corps item. SB 9-4 (3 Oct 56) gives you a basis to requisition on. This number gets you a one-pound box. Mix it one-half pound to a gallon of water. FSN 6810-297-0092 gets you 100 pounds.

First you rinse your battery with plain water, then scrub it with a scrub brush and the soda solution. When all foaming has stopped, rinse again with clear warm water and let dry. CAUTION: Be sure your battery caps are all in tight, and that no solution gets in the air vents. Soda inside the cells will neutralize the electrolyte.

While you're at it, clean the terminal clamps in the same solution, rinse, dry and grease.

Half-Mast

RE: REPAINTING

Dear Sgt Half-Mast,

What's what with repainting vehicles? Are there any directives which'll tell us when to have them repainted? Or do we just guess?

MSgt G. G.

Dear MSgt G. G.,

Wouldn't go so far as to say "guess", but you do have to use your own judgment as to when a vehicle needs repainting. No—there're no directives that lay down any hard and fast rules.

The things that'll influence a paint job are—the area in which you're operating—its weather and climate; whether the truck shows wear on its surface or corrosion underneath; and what your commander has laid down as SOP.

The inspectors can be real helpful in solving this. During an inspection, if they think a vehicle needs repainting, they'll tell you so.

Your local maintenance SOP will tell you who's supposed to do repainting. Whoever does it should use TM 9-2851 (Dec 47), "Painting Instructions for Field Use," and AR 746-2300-1 (29 Dec 55), "Color and Marking of Vehicles and Equipment," as guides.

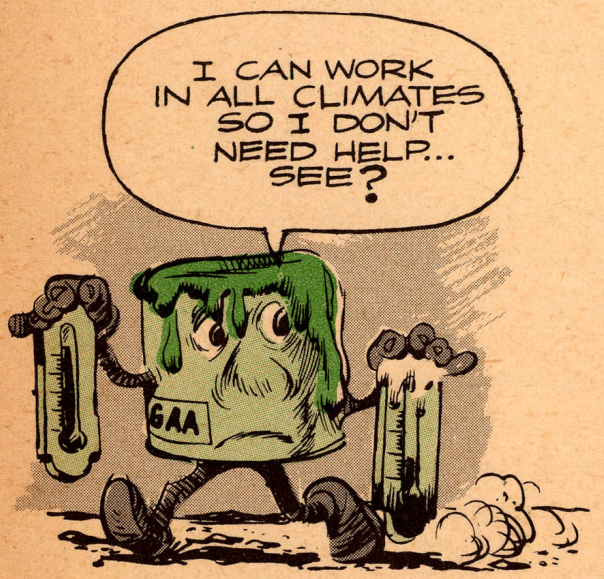
Half-Mast

MESSY MIXTURE

Dear Half-Mast,

Just why is it that we're not supposed to mix GAA and WB 2 grease? Wha'oppen if we do? Do they curdle, or go to bits, or what?

Sgt E. D. B.



Dear Sgt E. D. B.,

A good question deserves a good answer:

GAA and WB2 are made with different thickeners. Mixing 'em will foul up the capabilities of each other—these greases just can't be mated. A high ambient temperature causes the structure of each to break down, when they're mixed—and you'll get a semi-liquid kinda stuff.

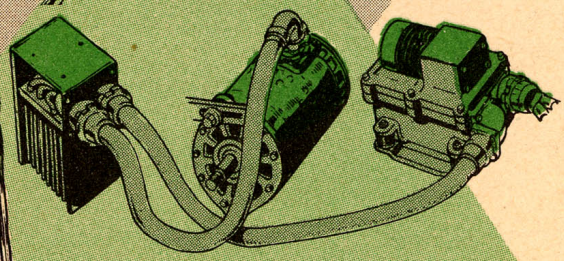
It boils down to this: Keep 'em apart and they're the best of friends. Get 'em together and they'll knock each other to bits.

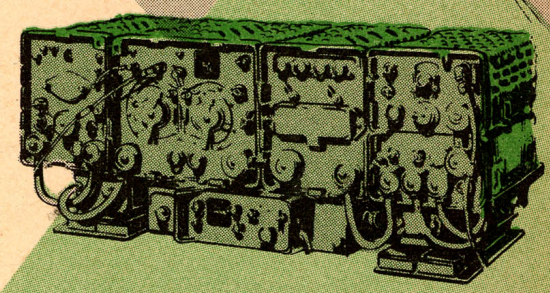
Half-Mast

For Vehicles With Radios Step Up and Get Your—

AC-DC 100-AMP GENERATING SYSTEM

If you're one of those who drive a Jeep (any model), a G741-series ¾-ton truck, a G742-series 2½-ton truck, or a G749-series 2½-ton truck, you won't want to go on until you've read this. It's mighty important.





You just can't get the best from a radio set inside that truck of yours unless you have one of these new-fangled AC-DC 100-ampere generating system—the official nomenclature is: **Kit, 100-ampere, 28-volt, rectified AC-DC, generating system.**

The kits are there for you to get—no sweat, no bother, plenty of authority and a set of complete stock numbers. All you have to do is order the thing, get it installed and, then, rest easy.

SEE YOUR AUTHORITIES AND STOCK NUMBERS FOR YOUR PARTICULAR VEHICLE'S KIT ON NEXT PAGE.

VEHICLE	AUTHORITY	ORD STOCK NUMBER
M38 Jeep	MWO Ord G740-W11 (1 Nov 56)	G740-5702023
M38A1, and M38A1C Jeeps, and M170		
Jeep Ambulance	MWO Ord G758-W6 (14 Nov 56)	G758-5702025
¾-Ton Trucks (G741 series)	MWO Ord G741-W12 (11 Dec 56)	G741-5702024
2½-Ton Trucks (G742 series)	MWO Ord G742-W26 (24 Jan 57)	G742-5702047
2½-Ton Trucks (G749 series)	MWO Ord G749-W40 (9 Jan 57)	G749-5702048

The MWO's are your authority for getting your kit—one per vehicle. But you **must** have a signed statement from your supply officer accompanying your kit's requisition—certifying that you have one of these radios in your truck.

SINGLE INSTALLATION	COMBINATION INSTALLATION
AN/CRC-5	AN/ARC-3 or 27 + AN/GRC-3
AN/GRC-10	through 8
AN/GRC-19	AN/GRC-3 through 8 + AN/GRR-5
AN/GRC-39	+ AN/PRC-8, 9 or 10
AN/GRC-40	AN/GRC-9 + AN/URQ-1, 2 or 3
AN/GRC-46	AN/GRC-9 + AN/GRC-3 through 8
AN/MRC-20	AN/GRC-9 + AN/GRC-7 + AN/GRR-5
AN/MRC-48	AN/GRC-9 + SCR-619 or SCR-610
SCR-193	AN/VRC-9 + AN/GRR-5
SCR-506	AN/VRC-10 + AN/GRR-5
SCR-694C	AN/VRQ-1, 2 or 3 + AN/GRR-5

If you haven't got one of these radio deals in your truck—no dice—you can't get the 100-amp deal.

Once you get your 100-amp kit—or, if you feel like boning up before you get it—why not dig through till you find PS Issue #43. It lays down the maintenance dope and other stuff on this 100-amp system.

Detailed installation instructions are in the MWO's.

More Elbow Room

(When Operating Your M5 Flame Fuel Mixer)

You Marines ever operate an M5 flame fuel-mixer in an LVT?

Gets dangerously crowded, doesn't it?

The way those stiff fuel hoses get hooked up to the unit, they've got no choice but to curve out wide—and hog a lot of space.

First thing you know you've got a fuel-loaded hose crowding the nearby air compressor... or, it's smack in the path of the compressor's **hot** exhaust blast.

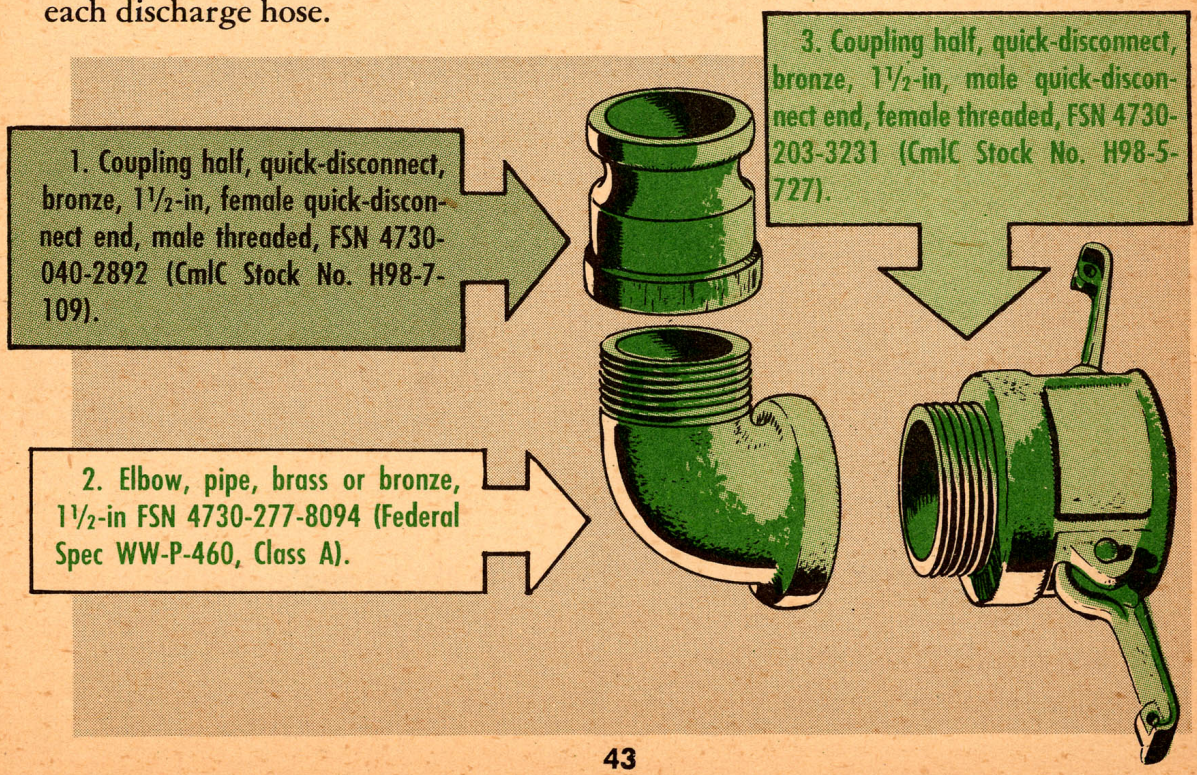
Well, here's good news. The fix you need to keep those lines away from the compressor is a quick-disconnect elbow assembly.

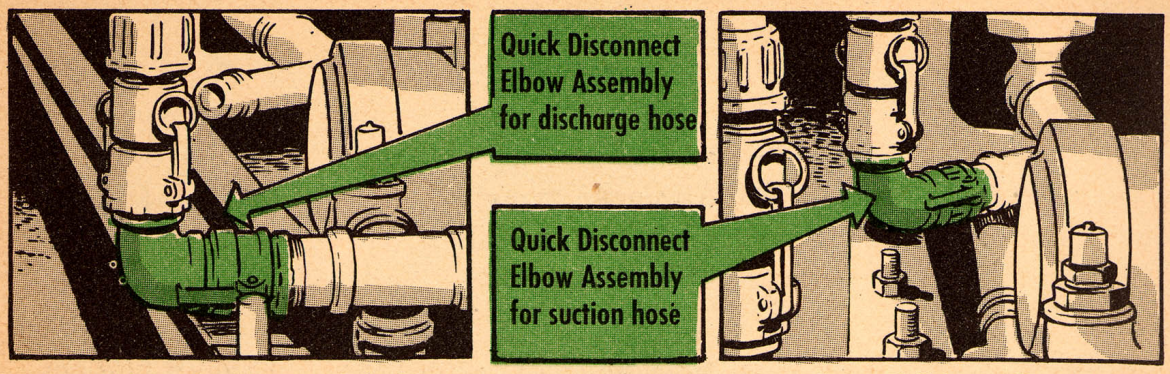
Just ask for **one each of the following for each suction hose** and one for each discharge hose.

1. Coupling half, quick-disconnect, bronze, 1½-in, female quick-disconnect end, male threaded, FSN 4730-040-2892 (CmlC Stock No. H98-7-109).

2. Elbow, pipe, brass or bronze, 1½-in FSN 4730-277-8094 (Federal Spec WW-P-460, Class A).

3. Coupling half, quick-disconnect, bronze, 1½-in, male quick-disconnect end, female threaded, FSN 4730-203-3231 (CmlC Stock No. H98-5-727).





Assemble the two quick-disconnect couplings to the elbow. This makes up the elbow assembly which connects between the inlet connection and the suction hose, or between the outlet connection and the discharge hose.

New M5's will get the elbow as part of their authorized accessories.

Safety Pins

Just got some sad news from one of the ranges. Seems like some of the men forgot about safety rules they got in training and straightened the safety pins on their grenades so they could toss 'em fast.

They didn't use all of their grenades, and they didn't remember to spread the pins back to safety. They just put 'em in a box so they could haul 'em back to camp. Somehow one of those pins worked loose. No use goin' into the gruesome details—you know what happened.

Always make sure the safety pins are spread out and safe when you handle grenades—fragmentation, chemical or what-have-you.

Cushion the Boss

Dear Connie,

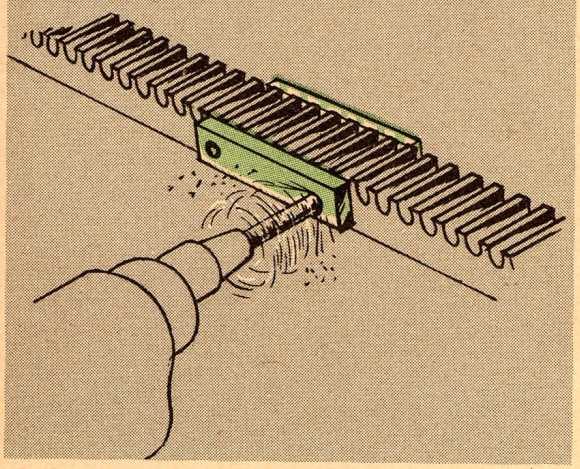
You're sure right! It pays to take it easy on the back stroke when you're working the pump handle on your M3A2 smoke generator. The caution helps to prevent cracking of the boss on the magneto-air pump bracket.

Here's another tried and true aid that'll keep the boss from being pounded to pieces.

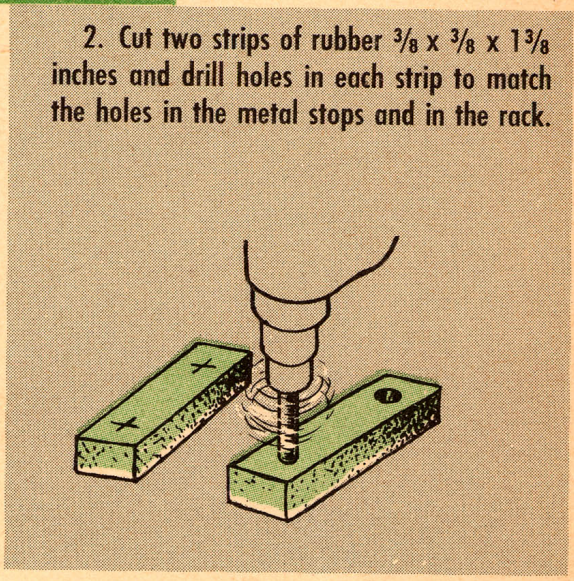
It's an easy fix. An outfit's organizational mechanic can do the job if he's got the tools and parts. (If not, Field Maintenance'll have 'em). He'll need a drill, some small pieces of medium hard, oil-resisting rubber and a couple of small rivets. Neoprene is excellent stuff for this fix. A check of the salvage yard may turn up some old neoprene engine mounts.

Here's What You Do:

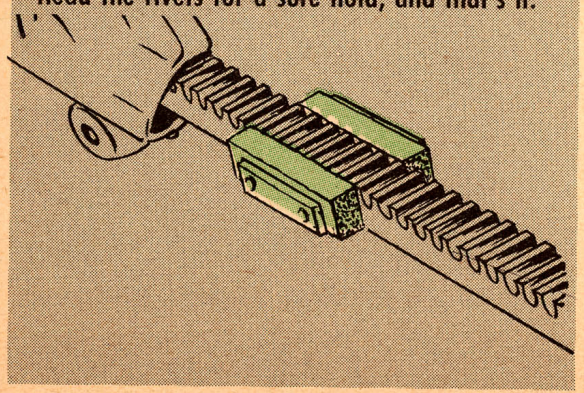
1. Remove the two metal stops from the rack by drilling out the two rivets.



2. Cut two strips of rubber 3/8 x 3/8 x 1 3/8 inches and drill holes in each strip to match the holes in the metal stops and in the rack.



3. Sandwich the rubber strips between the rack and the metal stops. Run a rivet (1/8 x 1 1/2-in round-head rivet) through each hole. Head the rivets for a sure hold, and that's it.



Reassemble the magneto-air pump assembly and there'll be no more banging of the boss.

If neoprene isn't handy, any medium-hard rubber will do a good job. Only trouble with rubber (like from old tires) is that it doesn't stand up to oil and grease. You'll have to keep close tabs on the rubber padding and replace it when it gets chewed up.

Jack McLaughlin
Army Chemical Center, Md.

QUARTERMASTER

Rope TRICKS

From this rope hangs only a tale
Instead of the Swami, as intended.
Poor maintenance caused his line to fail
So, his rope climbing career is ended.

Yessir. Real sad. This here now fakir had a real deal going with an Indian rope trick—until he slipped up on his PM.

He let the strands fray . . . forgot how to coil . . . and kept draggin' his rope in the sand. Till one day the rope just upped and failed.

He fell a long—long way.

Guess he just forgot these basic tips on the care and handling of rope. F'rinstance:

It helps to know what fiber rope's made of. It's nothing more than vegetable fibers twisted together, and as such, can rot, burn, mildew, mold and shrink.

Now there are **kinds** of fiber rope and **types** of fiber rope.

The **kinds** tell you what the rope is made of—the **types** tell you how the rope is made.

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CARE

Dry before storing.

Store in dry place. Coil it on grating (or slatted pallet) or any place where air can flow through.

Loosen up lines that're dry and taut if rain or wet weather is headin' your way. Wet rope shrinks. If it's already pulled tight, the moisture is likely to shrink it to the snapping point.

And if you throw some canvas over the rope to keep the rain off, make sure the tarpaulin is hauled off as soon as the weather clears up. You want fresh air to get at the rope to dry it. Leaving the canvas over it holds in the moisture, increasing the chance of mold setting in.

Always use water to clean rope and keep sand and grit out of it.

'Course, don't tie knots that even a swami couldn't unravel. It's rough on nerves, fingernails and rope.

USAGE

A rope slung over a hook or with a knot in it has lost one-third of its strength.

Bending a rope over a sharp corner chops its strength exactly in half (usually also chops the rope in half).

Heat or boiling water weakens rope by 20 percent.

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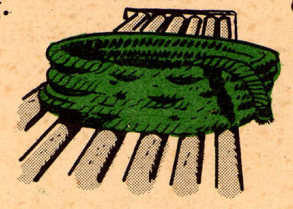

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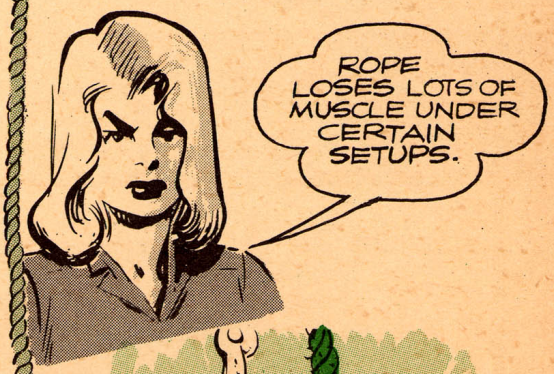

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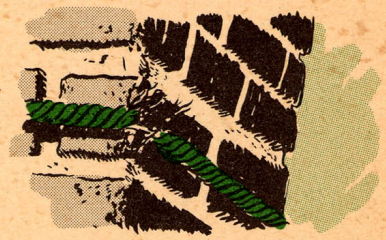
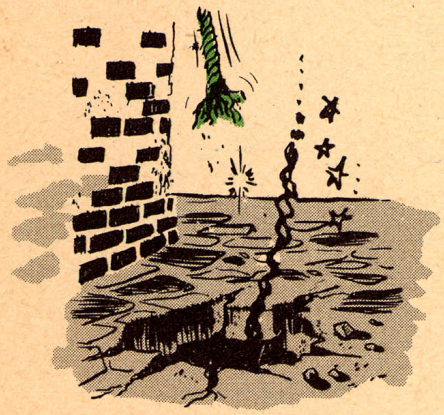


Bending a rope over a sharp corner chops its strength exactly in half (usually also chops the rope in half).

Heat or boiling water weakens rope by 20 percent.

The big question when using rope, naturally, is how much strain it can take. Remember that fibers are elastic and stretch. That's why rope has always been good for a thousand and one chores.



But too big a strain kills its stretchiness — which deadlines the line. Moral of the story: keep from stretching a rope up to the breaking point. 'Cause even if it doesn't snap this time, it's gonna be real risky for future use.

COILING – UNCOILING

NOTE: COIL ROPE IN DIRECTION OF THE LAY...

COIL HAWSER-LAID
SHROUD-LAID
CLOCKWISE

COIL CABLE-LAID
COUNTERCLOCKWISE

Musty smell or dark-stained appearance which means mildewed rope.

Broken strands.

Dirt and sawdust-like stuff inside the rope—which means rope gremlins have done their dirty work.

If rope has a central core, (shroud-laid), make sure it doesn't shred and break away when you handle it. If it does, the rope's overstrained.

But even if a rope suffers from all these miseries, it's still got some use in it. Chop it into small pieces for assorted uses. Just so's it is never used for heavy work.

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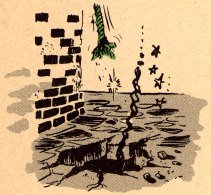

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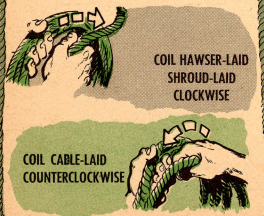

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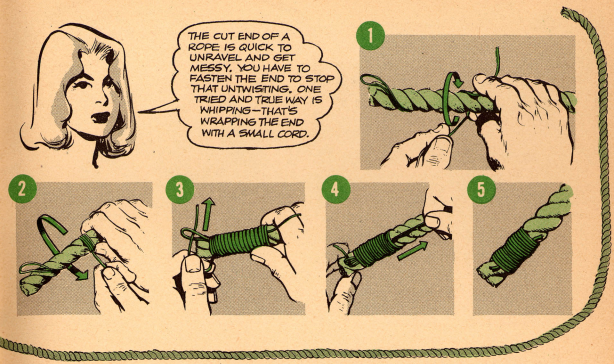


Drum Beater

Dear Connie,

Every time I order something in a 55-gal drum, I've gotta make a choice between a 16-gage and an 18-gage drum. Do I just toss a coin, or is there some good reason why I should specify one or the other?

Sgt O. M. D.

Dear Sgt O. M. D.,

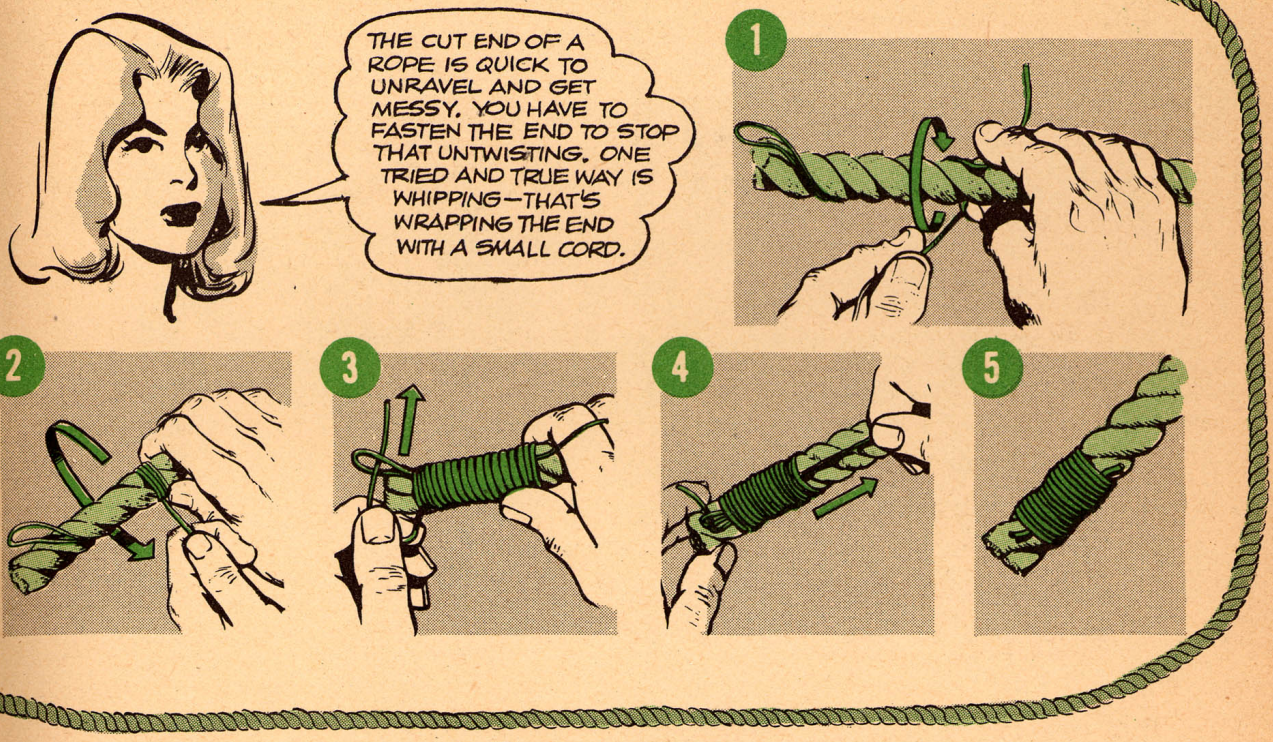
Your question has sweated many a GI brow, but maybe this will help you beat the drum situation.

The 16-gage drum is made of thicker metal and is designed for long hauls and rough treatment. It'll give you the most mileage—and it can be used for shipment time and time again.

The 18-gage drum is lighter, about 23 percent cheaper, and is designed mostly for one-shot deals. It's specially suited for long-term duty in one spot. It'll handle anything the 16-gage drum can—but not as well and as long.

So which drum you order will depend pretty much on your own needs. You know—situation, terrain, expected usage . . . that sort of thing.

Connie



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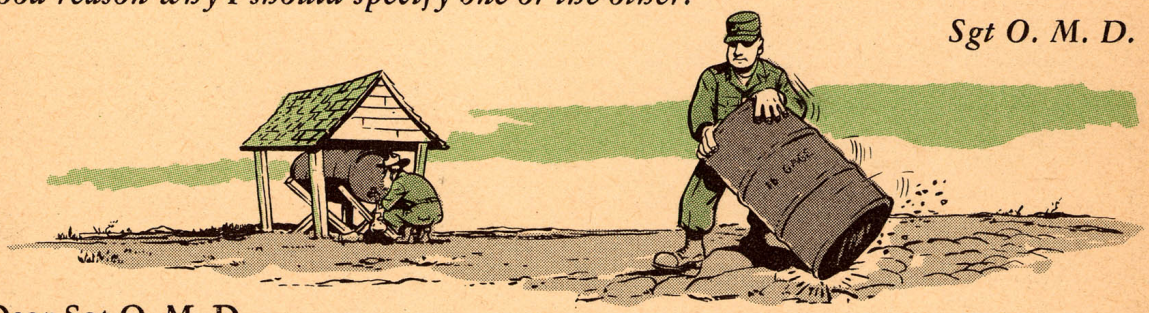
Sgt O. M. D.



Dear Sgt O. M. D.,

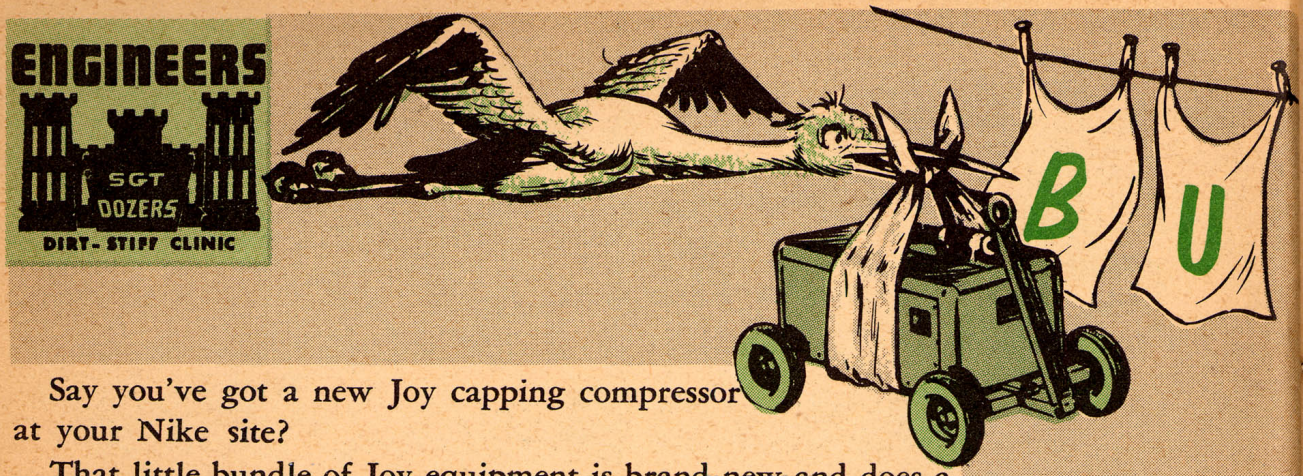
Your question has sweated many a GI brow, but maybe this will help you beat the drum situation.

The 16-gage drum is made of thicker metal and is designed for long hauls and rough treatment. It'll give you the most mileage—and it can be used for shipment time and time again.

The 18-gage drum is lighter, about 23 percent cheaper, and is designed mostly for one-shot deals. It's specially suited for long-term duty in one spot. It'll handle anything the 16-gage drum can—but not as well and as long.

So which drum you order will depend pretty much on your own needs. You know—situation, terrain, expected usage . . . that sort of thing.

Connie



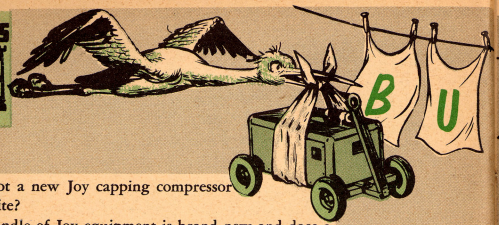
Say you've got a new Joy capping compressor at your Nike site?

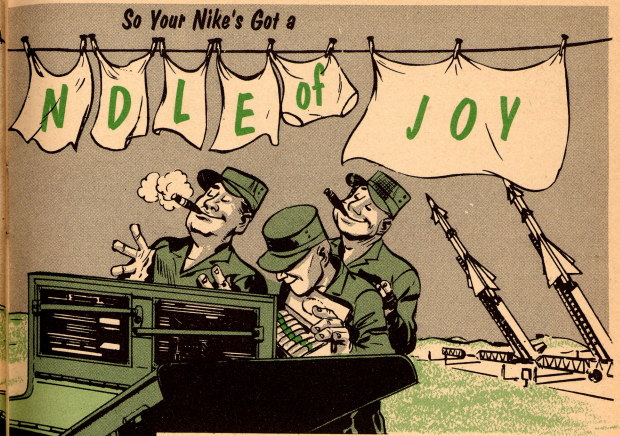
That little bundle of Joy equipment is brand new and does a very important job for you.

Being new means that few people have operated it . . . and fewer have worked on it in shops. So it'll take a lot of good preventive maintenance by you to keep the Joy compressor going. You've gotta treat her like a real new baby.

And that important job—putting the air charge in the missile—gets done right only if you take good care of the compressor. That doesn't mean pencil preventive maintenance—like marking off stuff on a checklist. It means a little elbow grease, time, and trouble.

Otherwise . . . those missiles'll be panting for air, and you won't have it.




So Your Nike's Got a
BUNDLE of JOY

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Good idea to cut those numbers right off this page and paste 'em on the instruction panel of the compressor. That's how important this oil deal is. Word got around that some guys have put standard engine oil in the compressor crankcase. That's the same as feeding a real new baby T-bone steak. The compressor can't digest standard engine oil.

HERE'S THE ONLY OIL YOU SHOULD BE USING IN THE COMPRESSOR CRANKCASE. USE THIS TYPE ONLY. ANYTHING ELSE IS NO-GO.

Compressor Crankcase Oil

REQUISITION: LUBRICATING OIL, GENERAL PURPOSE.

32° to −10° F (SAE 20)	5-GAL DRUM	FSN 9150-223-4137
	55-GAL DRUM	FSN 9150-235-5578
130° to 32° F (SAE 30)	5-GAL DRUM	FSN 9150-231-6639
	55-GAL DRUM	FSN 9150-231-6641

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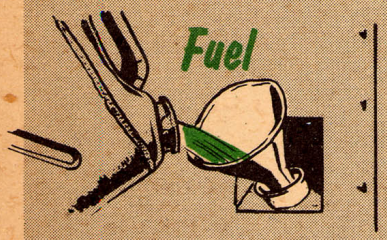
	55-GAL DRUM	FSN 9150-231-6641

BEFORE OPERATION

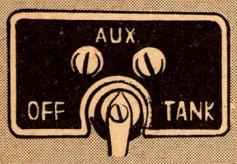
Like any other piece of equipment, you've got to check your bundle of Joy over to be sure she's ready to run.

First thing to do after towing her to the job is set the hand brake. If you forget to do it on steep terrain, you'll have a runaway for sure. Set the brake on level ground, too . . . just to make extra sure the compressor won't move.

Fuel

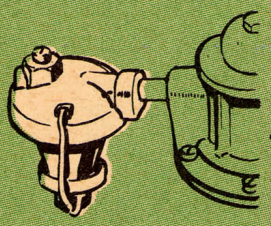


Fill the gas tank and put the supply valve in the right position, which is usually TANK.



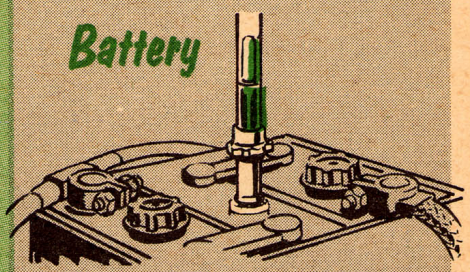
Point the valve to AUX to operate from a drum hooked to the fuel connection beside the valve.

Fuel Strainer



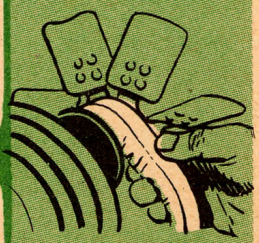
Look for dirt and breaks.

Battery



Electrolyte level should be ½ inch above top of plates. Don't let specific gravity get below 1.225 at 80° F. Remember it's a 6-volt system.

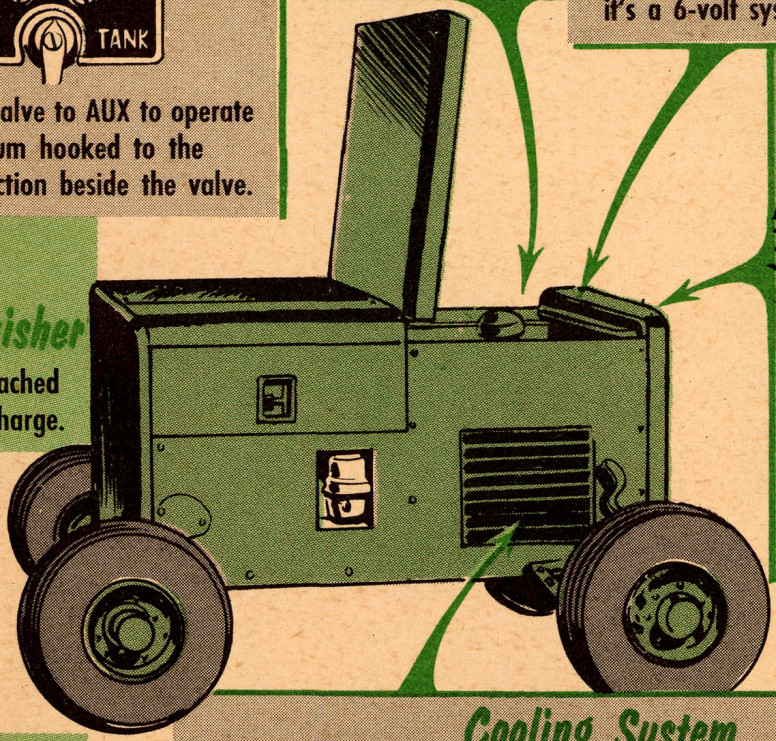
V-Belts



Check for cracks and bad ajustment. They should have from ½- to 1-in give. Replace only by sets.

Fire Extinguisher

Securely attached and has a charge.



Tires

Make pressure 20-psi. Inspect for cuts, bruises and fabric breaks.

Cooling System

Inspect the fins on the intercooler-aftercooler. Keep 'em free of dust, dirt, bends, or any obstruction. That includes paint. Paint those little fins, and the cooling action will be cut down. You can't move 'em, and you can't salute 'em . . . but you still don't paint 'em. Remove any obstructions from the compressor cylinder and crankcase fins, and the engine cylinder block and heads. Look over the engine air shroud.

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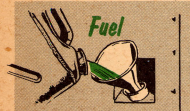

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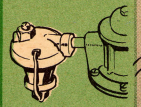

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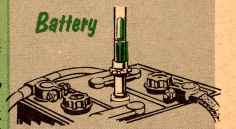

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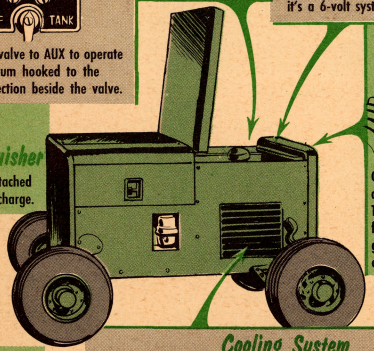

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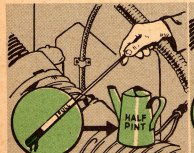
Tires

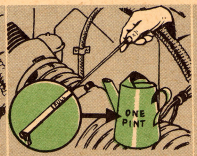
Make pressure 20-psi. Inspect for cuts, bruises and fabric breaks.

Oil

Another real important thing about the compressor crankcase on your bundle of Joy is the oil level. It takes three pints . . . no more . . . just three pints. Having the level over the dipstick full mark is far worse than having it under.



If the reading is halfway between the full mark and the bottom of the dipstick, add half a pint of oil.



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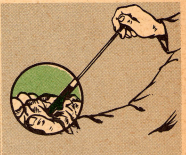
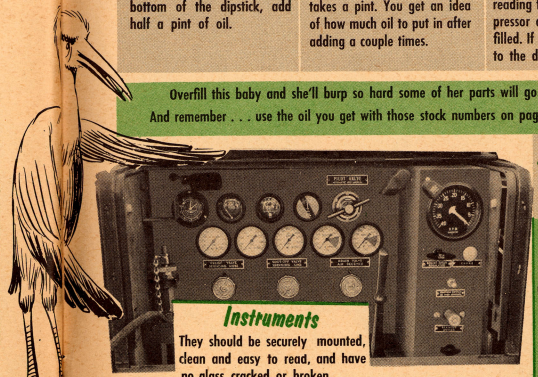


After you add oil—no matter how much—take a dipstick reading to make sure the compressor crankcase is not overfilled. If she is, drain her down to the dipstick full mark.

Overfill this baby and she'll burp so hard some of her parts will go out of whack.

And remember . . . use the oil you get with those stock numbers on page 51 and no other.



Instruments

They should be securely mounted, clean and easy to read, and have no glass cracked or broken.

Air Cleaner

Keep the oil clean and at the proper level.

Clutch Lever

Should be disengaged—moved toward the unit.

Overall Once-Over

Look over the whole unit for:

Fuel or oil leaks

Missing nuts and bolts

Damaged housing

Bad hoses and lines

Defective wiring

And any other trouble spots.

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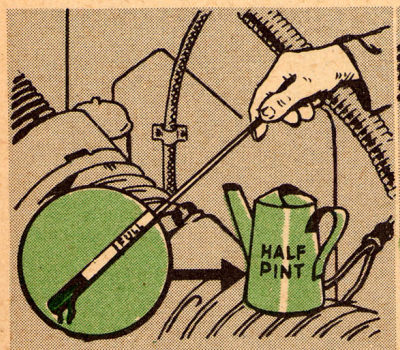

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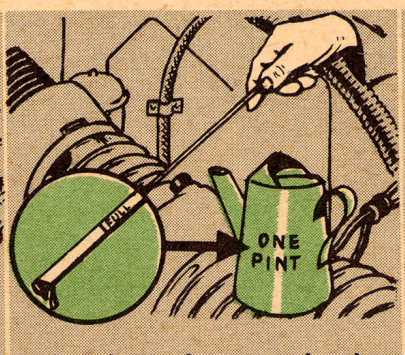

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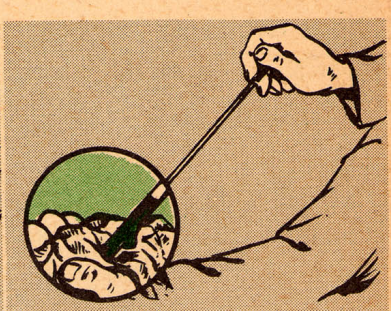

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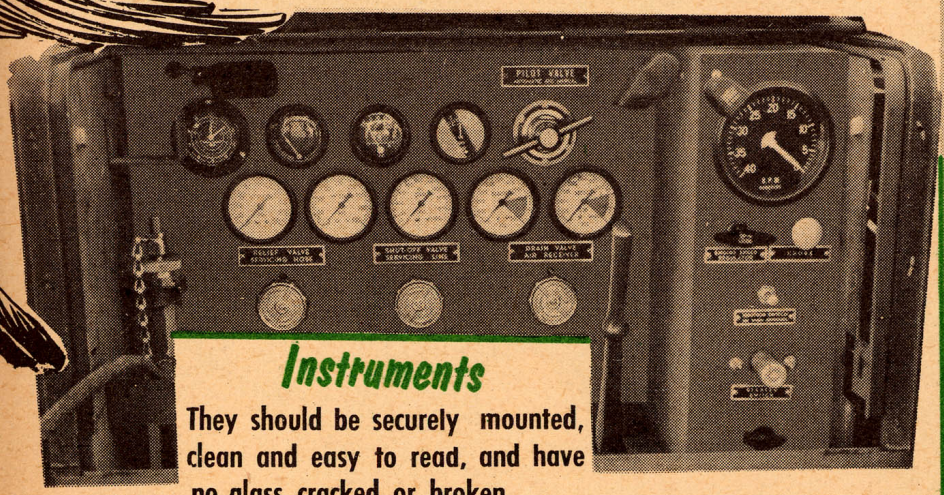

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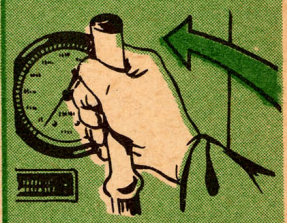

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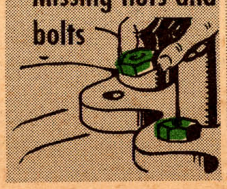
Missing nuts and bolts



Damaged housing

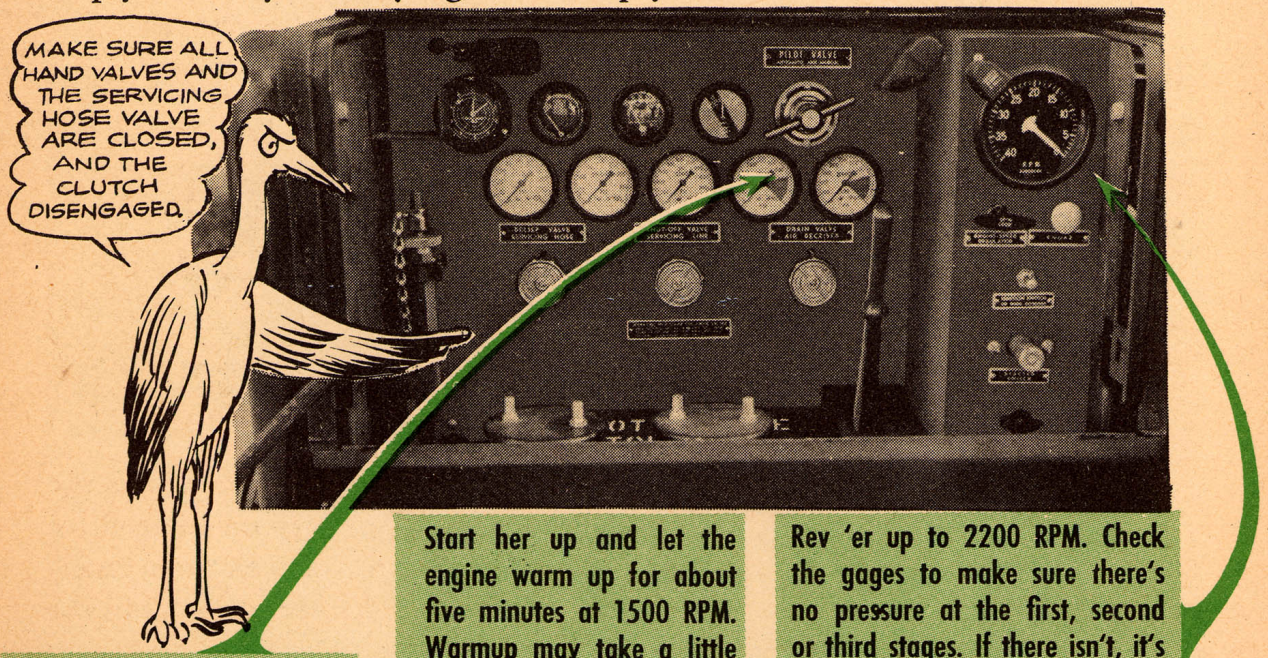
Bad hoses and lines

Defective wiring

And any other trouble spots.

DURING OPERATION

Without going into every operating step, here're a few rights and wrongs to help you treat your baby right and keep yourself out of trouble.

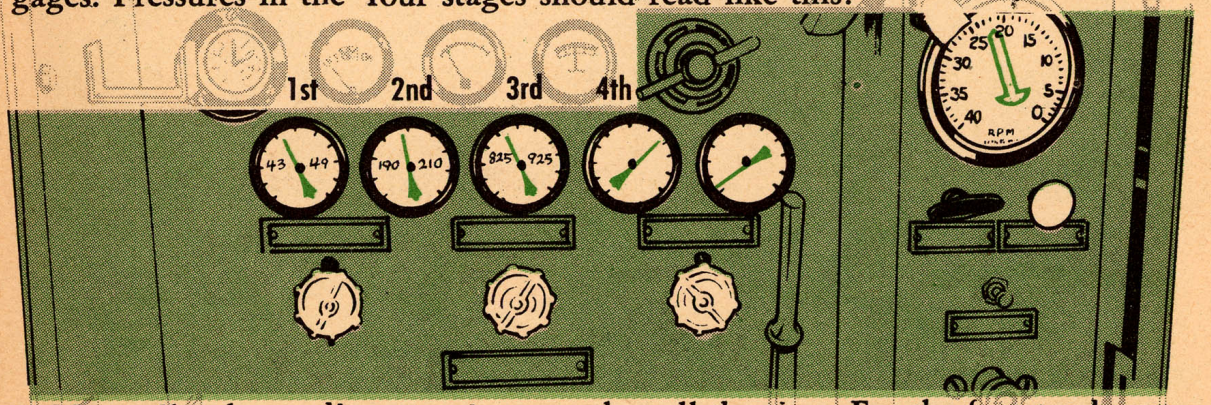


Turn the pilot valve clockwise until you feel it come under tension . . . then give it another half turn.

Start her up and let the engine warm up for about five minutes at 1500 RPM. Warmup may take a little more or less time, depending on the weather. If you don't have oil pressure, shut her down.

Rev 'er up to 2200 RPM. Check the gages to make sure there's no pressure at the first, second or third stages. If there isn't, it's OK to engage the clutch by pulling toward you. You don't want to engage that clutch unless those first three stages are clear.

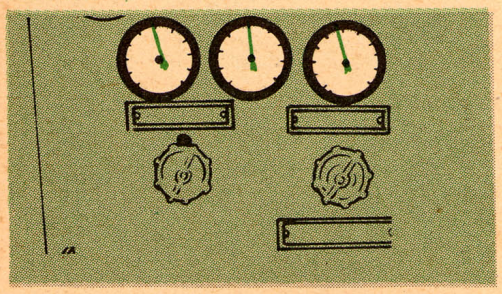
Turn the pilot valve counterclockwise until there's no tension. Then give it one more turn . . . that's all. Keep turning the valve and it'll come all the way out. Now the air pressure starts to build up. As it does, keep an eye on the gages. Pressures in the four stages should read like this:



Naturally, the readings won't range that all the time. For the first ten hours of operation on a new Joy (or the next ten hours if you've already got one), jot down the readings in the first three stages when the compressor's fully loaded. Once you've established an average reading, it shouldn't vary more than 3 PSI in the first stage; 10 PSI in the second stage, or 50 PSI in the third stage.

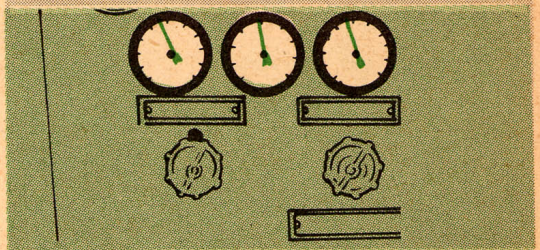
For example, suppose you operate for ten hours—four or five times—and come up with these readings each time:

1st stage	2nd stage	3rd stage
44 PSI	195 PSI	900 PSI



FROM THEN ON, THE GAGES SHOULDN'T VARY MORE THAN THIS:

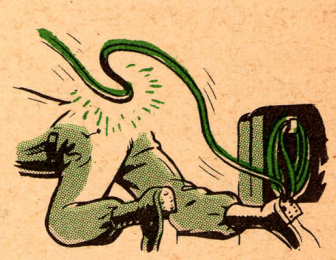
1st stage	2nd stage	3rd stage
43-45 PSI	190-200 PSI	875-925 PSI



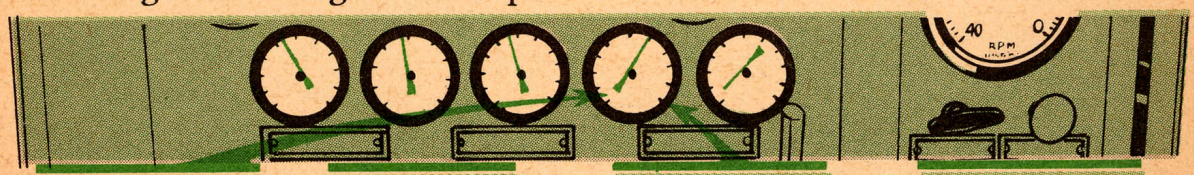
IF THEY DO, TELL FIELD MAINTENANCE.

It's a tough way to find out, but you'll know soon as the fourth-stage pressure reaches 2400 PSI whether you've closed the service hose valve on the control panel and the valve on the service line. A priority valve prevents air from entering the servicing hose until the pressure reaches 2400. Then the air is let in the hose—real quick.

Your insurance'll be due or you'll at least get first place on the sickcall list if those two valves aren't closed. If 2400 pounds of air hit that servicing line all at once with the valves open, you get a snapping action something like a circus strong man cracking a whip.



Now get this, because it's something that's gotta be done or the missile air receiving tanks will get fouled up.



After the fourth stage pressure builds up to over 3000 PSI:

Crack the servicing line valve just a little.

Keep an eye on the fourth stage gage

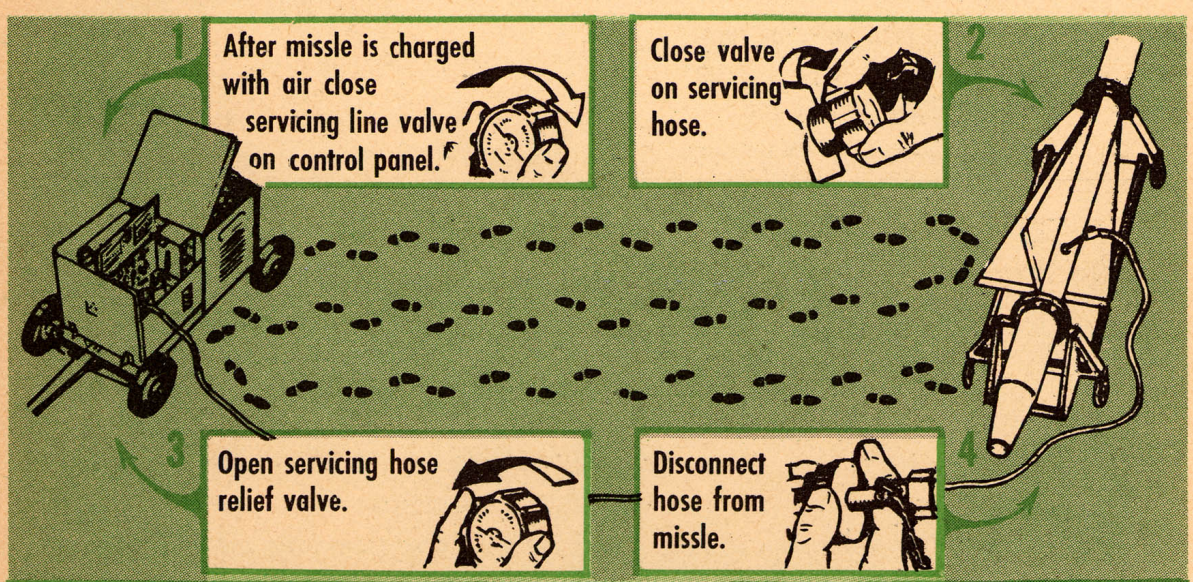
. . . and make sure the pressure stays at 3000 or a little above.

LET THE COMPRESSOR RUN FOR AN HOUR—60 MINUTES—WITH THE PRESSURE AT 3000 PSI AND AIR DRAINING OUT THE SERVICING LINE.

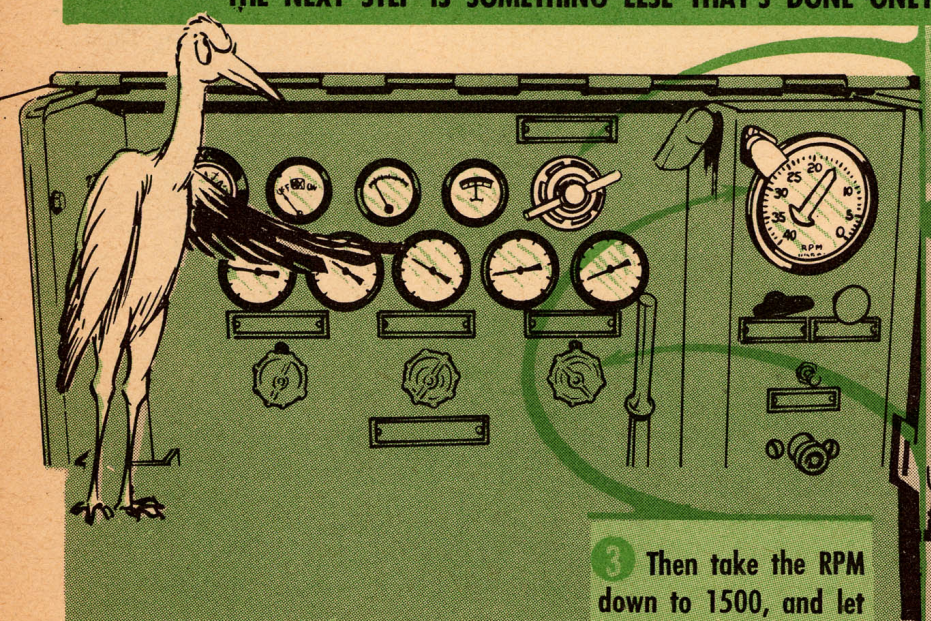
Why? It takes an hour for that air to get down to the right dew-point. The missile takes dry air only. If you cap it **before** running air through the compressor for an hour, the air will have too much moisture in it—it won't be at the

proper dew-point—and that's no good. The air receiving tanks in the missiles eventually get rust scales.

So make sure you run air through the compressor for 60 minutes before capping missiles.



THE NEXT STEP IS SOMETHING ELSE THAT'S DONE ONLY ONE WAY:



1. Turn the pilot valve clockwise until pressure starts to unload in the 1st, 2nd and 3rd stages.

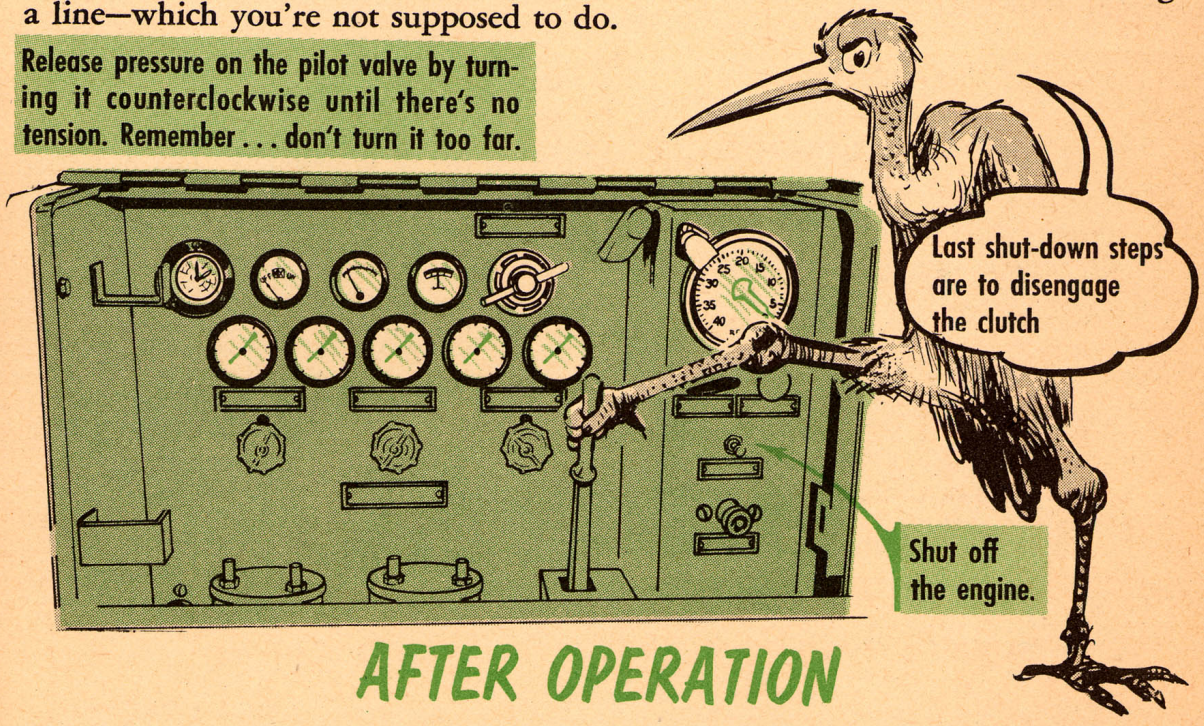
2. Crack the receiver drain valve just a little—open it up wide, and your baby will get you all wet and dirty—the blowdown valves will spray water, oil and dirt from under the unit.

3. Then take the RPM down to 1500, and let the compressor and engine run there for about five minutes to cool off.

4. Open the receiver drain valve wider and drain the receiver until the gage reads zero.

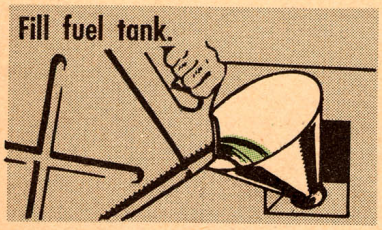
What happens if you open the receiver drain valve before the pilot valve? Well, once the receiver tank is drained, the pilot valve becomes useless until you build up at least 10 PSI in the receiver—you can't release air in the first three stages with less than 10 PSI. That leaves air trapped in the cylinders.

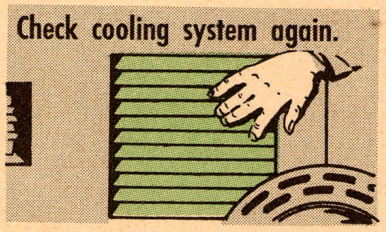
The next guy tries to start up the compressor with the cylinders airlocked . . . and the clutch generally burns out or takes a bad beating. Only way to release the air and unlock those cylinders when things are bassackwards is by disconnecting a line—which you're not supposed to do.

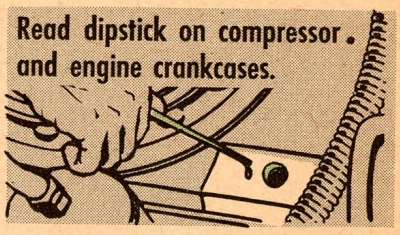


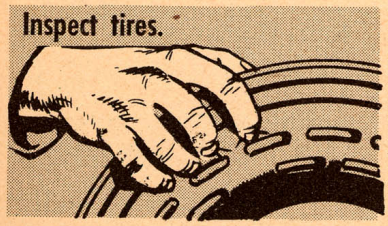
AFTER OPERATION

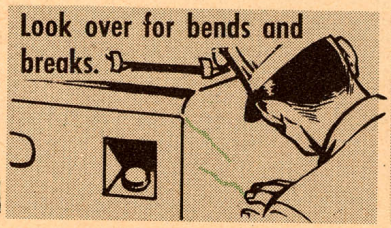
When your little Bundle of Joy's through making with the air, give her another looking over so she'll be ready for another day.

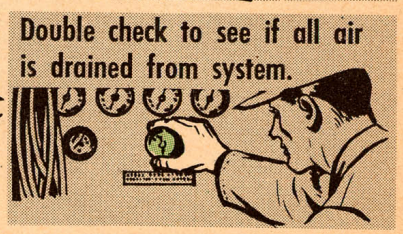


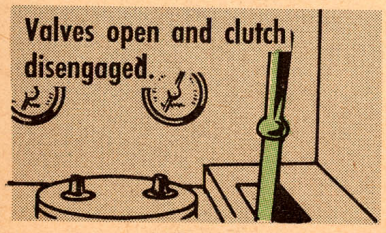




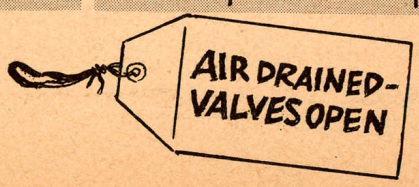




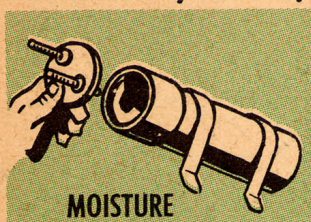




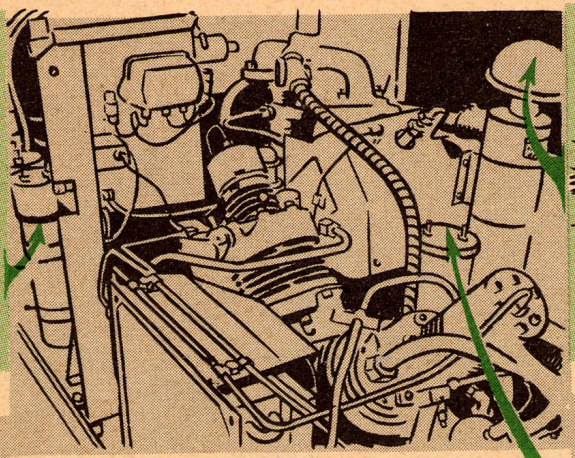
The last thing before chow is to put a tag on the compressor:

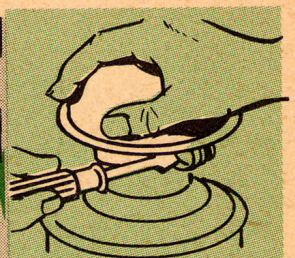


Here's the general change times for filtering and cleaning units. Climate and weather may make yours a little different.



MOISTURE DEHYDRATOR
Change every four hours.

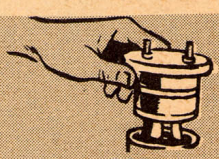




AIR CLEANERS
Check every day for dirt.

HIGH PRESSURE AIR FILTER
Change every 100 hours.

ENGINE AND COMPRESSOR CRANKCASE OIL . . .
Change every 100 hours.

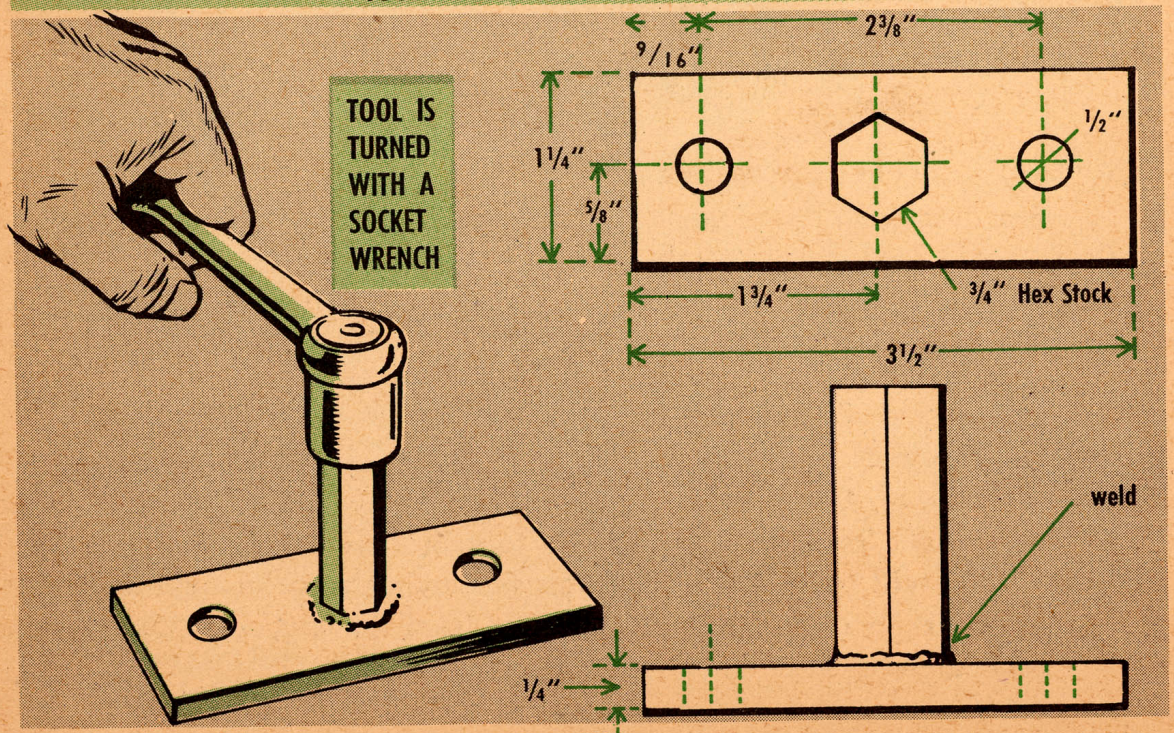


OIL VAPOR CARTRIDGE
Change every 50 hours.

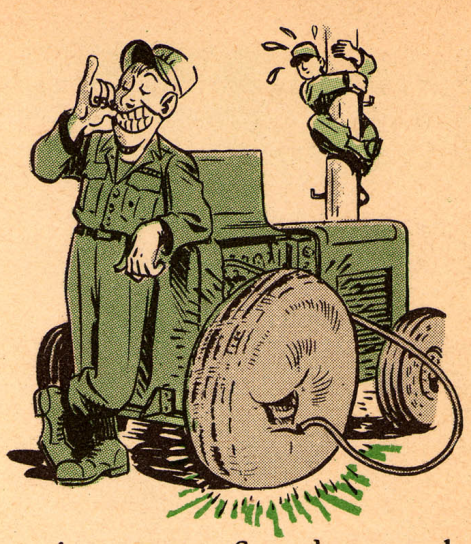
MAINTENANCE AND SAFETY TIPS

Now, about changing those cartridges. You gotta insert a pry-bar between those studs on the dehydrator caps and twist off the cap. It's easier on the cap threads and you with this little tool which is easy to make.

TOOL FOR REMOVING DEHYDRATOR CAPS



It's tough sometimes to hunt up a pump to fill the tires. Some guys figure it's no use taking the time and trouble when they've got plenty of air right there above the tires. So they try filling the tires right out of the compressor.



Brother, that's bad. About like using a fire hose instead of an eye-dropper to put drops in your eyes. That compressor could easy bust a tire—and worse.

And don't try to use the compressor on a paint sprayer. Sounds crazy, but it has actually been done. Hook the servicing line to a paint sprayer, and you'll have a paint bomb.

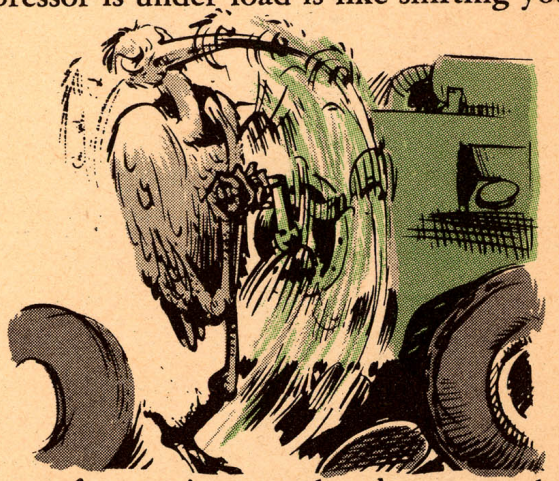
Like all other equipment, the bundle of Joy gets a DD 110 filled out every day. Report all deficiencies on it.

If the clutch goes out of whack, get authorized people to adjust it. Check the oil level now and then.

Make sure the governor is connected when running the engine. Engaging the clutch when the compressor is under load is like shifting your car into first gear at 60 MPH.

Always have the shroud in place when operating the engine.

When you gotta use a handcrank to turn her over, give it one good pull upward. Repeat the one-pull operation until she starts. Don't try to spin the engine with the handcrank.

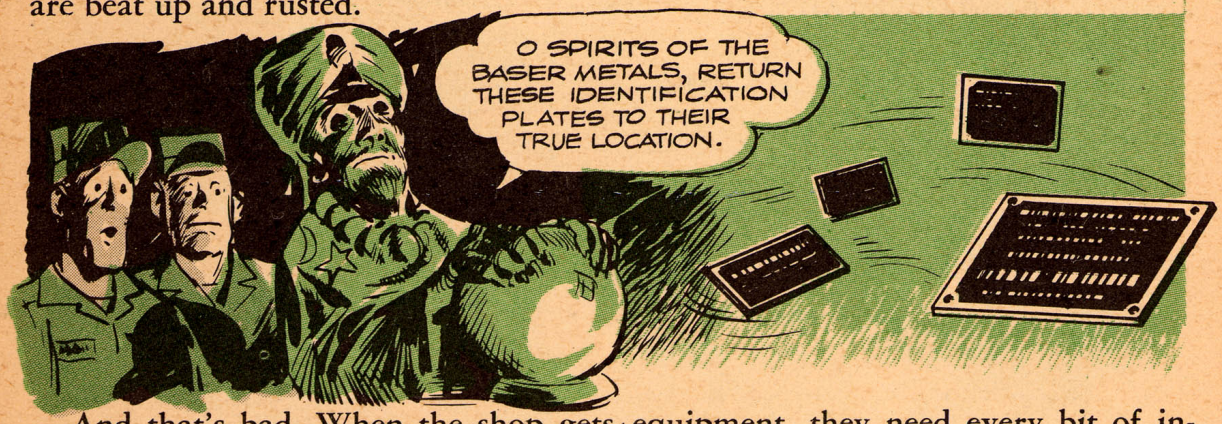


One last and real important item. The only publications out right now on the Joy Compressor are a manufacturer's manual and parts catalog. If you haven't got 'em, send a requisition to field maintenance. Eng. Stk. No 7610-C-1-0662 will get you the operation and maintenance manual and parts catalog. They'll get the publications for you from the Engineer Maintenance Center at Columbus, Ohio.

THEY'RE NOT MAGICIANS

Rebuild shops don't have a rating for a magician—that MOS is hard to come by.

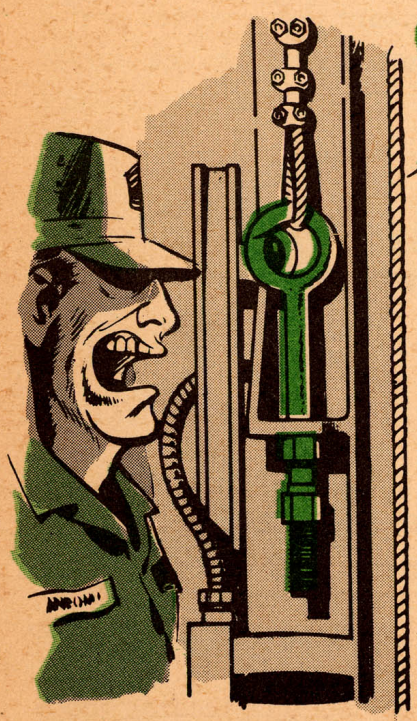
But sometimes they need a crystal ball to read the identification plates on equipment and components sent back for replacement or rebuild . . . when the plates are beat up and rusted.



And that's bad. When the shop gets equipment, they need every bit of information on those name plates. Expecting them to work without that info is like telling a tailor to make you a suit—and not giving him your size.

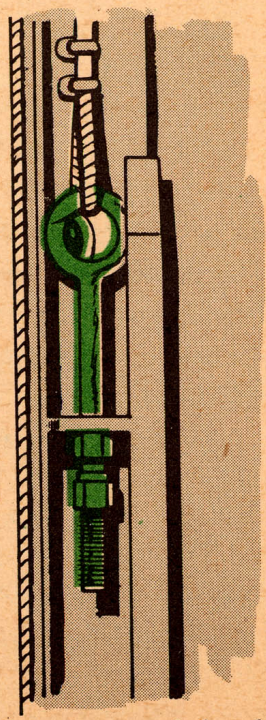
So keep the ID plates free of paint and dirt . . . and give 'em a light coating of oil now and then to fight rust. It'll help all along the line.

EYES RIGHT



That's how the four upper eye-bolts on the Nike elevator equalizer-cable-assembly have to be.

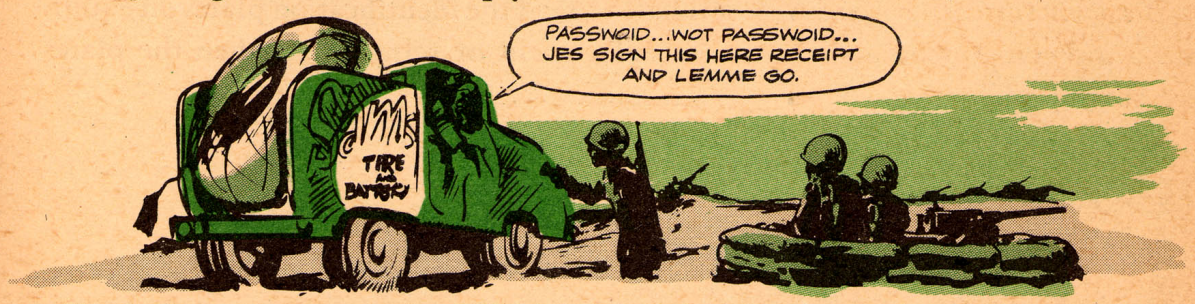
If the eyes of the bolts aren't looking straight at you when you ride the elevator, the operation could be flubbed. When the bolt is cockeyed, it could flick one of the limit switches on the elevator—at the wrong time.



Keep the bolt's eye flat against the side of the pit. Make an eyes-right check after each equalizer-cable-assembly adjustment.

LOFTY LOWBOY

Seems I've been hearin' of some lowboy cowboys who are having some difficulties getting the 10.00x15 14-ply tires for those trailers.



Well, those tires go under FSN 2610-269-9524 and are classified as AC items in supply control. This means that the tire is supposed to be purchased locally —they aren't in supply. The depots used to stock a few, but they petered 'em out —and no more are being put back in.

So, what you better do when you need tires to keep your lowboy rolling is to follow through on this local purchase deal like SB 9-60 and SR 715-110-50 say.

READ BEFORE YOU LEAP

Everybody's done it at one time or another. Picked up an Eng 7&8, grabbed nomenclature and stock number, and requisitioned. And cussed when the requisition bounced like a bad check.

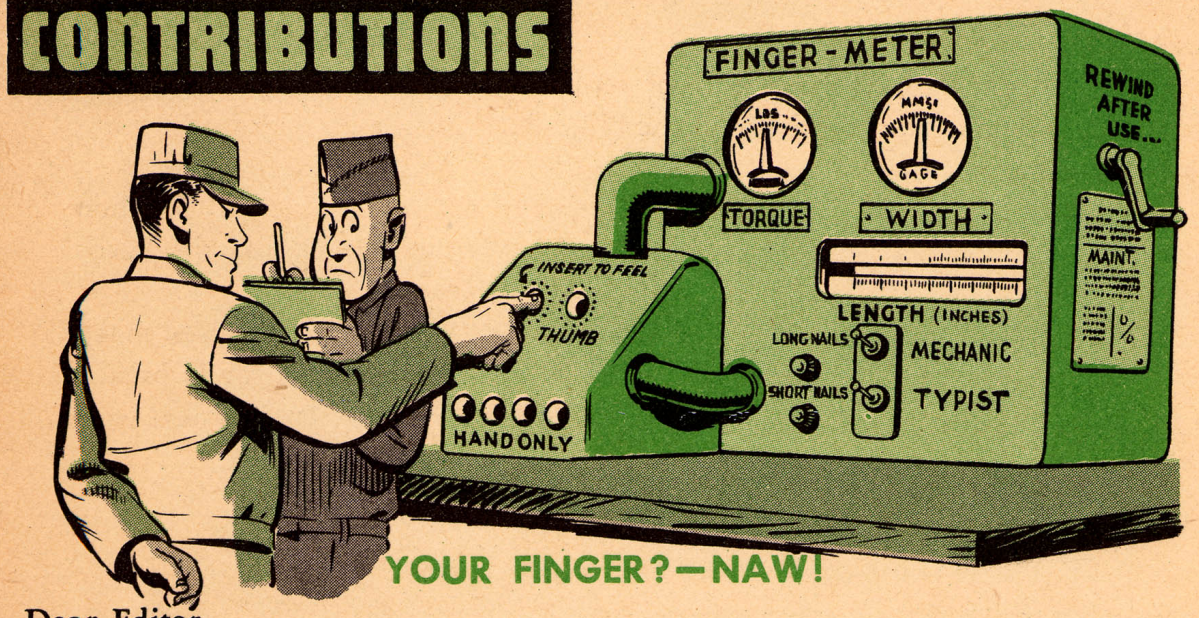
To really know what a supply manual is all about, you gotta read the preface. Those pages at the beginning, where it says GENERAL and EXPLANATION OF COLUMNS, and such.

Looks like a lot of reading, but those pages tell you what is what and how to use the SM.

Read that preface over before using any and every supply manual. It's a good rule. And that rule's getting more important every day, with the changeover to Federal Stock Numbers and other new stuff coming out.

Don't buy a pig in a poke, and don't use an Eng 7&8 without reading those scoop pages in the front of it. Saves a lot of time and trouble.

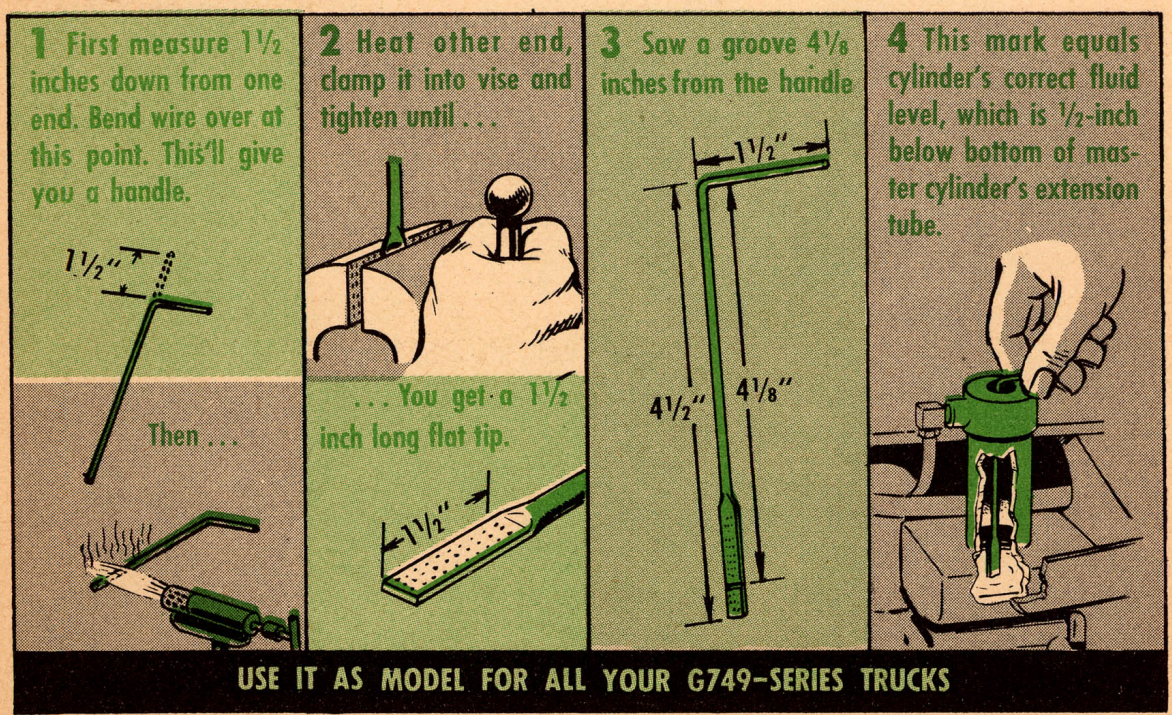
CONTRIBUTIONS



Dear Editor,

Whatcha gonna do when checking the fluid level on your G749-series 2½-ton truck's brake master-cylinder—use your finger?

It'll never fit . . . not as well as a 6-in length of ⅛-in acetylene welding wire. Here's how we made a dipstick out of it.



We keep a self-made dipstick in each vehicle's map compartment along with a piece of clean wiping cloth—bloomin' fancy way to keep your finger clean, eh wot?

SFC E. B. Cole

Two on the Ajax —

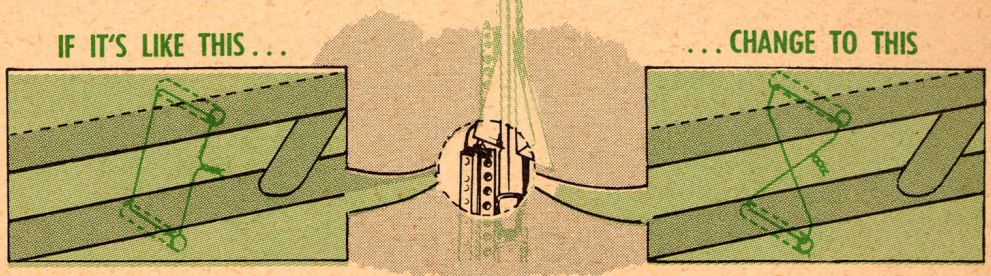
SAFETY TWIST

Dear Editor,

If you've ever had the experience of replacing the safety wire between the hydraulic disconnect and tunnel 3 on the Nike-Ajax missile . . . you know what a job it can be.

When the wire breaks, it tends to pull out of the hole in tunnel 3. Then you've got a headache trying to replace the wire without removing the hatch and the warhead.

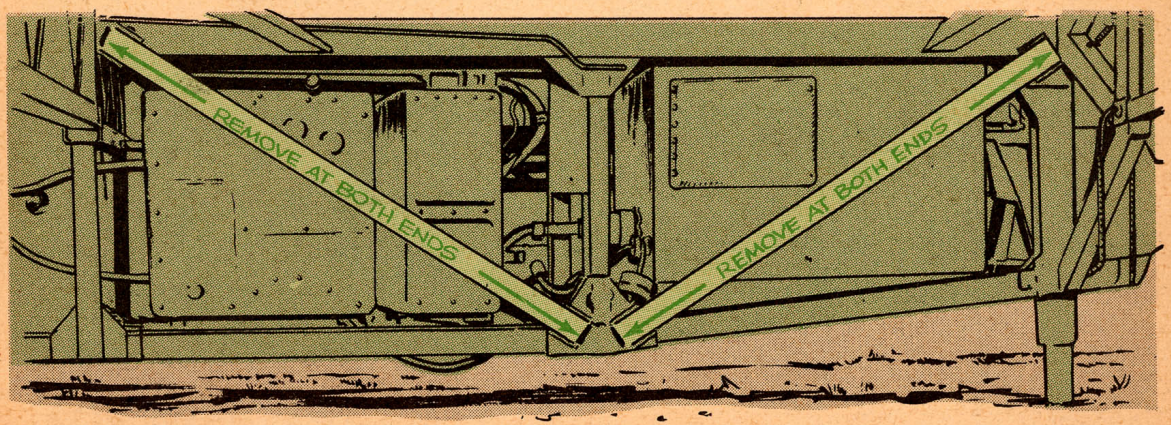
What we do is cross the wire like shown here. This crossing causes sharp bends which help to hold the wire in place if it breaks. The wire usually breaks where the ends are tied in together, so it's a simple matter to attach a new wire to the broken one and pull it through the hole.



NO BENT BRACES

Another idea—one that is saving wear and tear on the elevator platform launcher. It keeps the diagonal braces at the forward end of the launcher from getting torn up.

You know what happens if a guy removes only the upper end of the brace to work on the "J" box . . . the brace extends beyond the edge of the elevator. Then if someone accidentally operates the elevator, the brace is bent by the end trusses, storage racks or elevator doors.



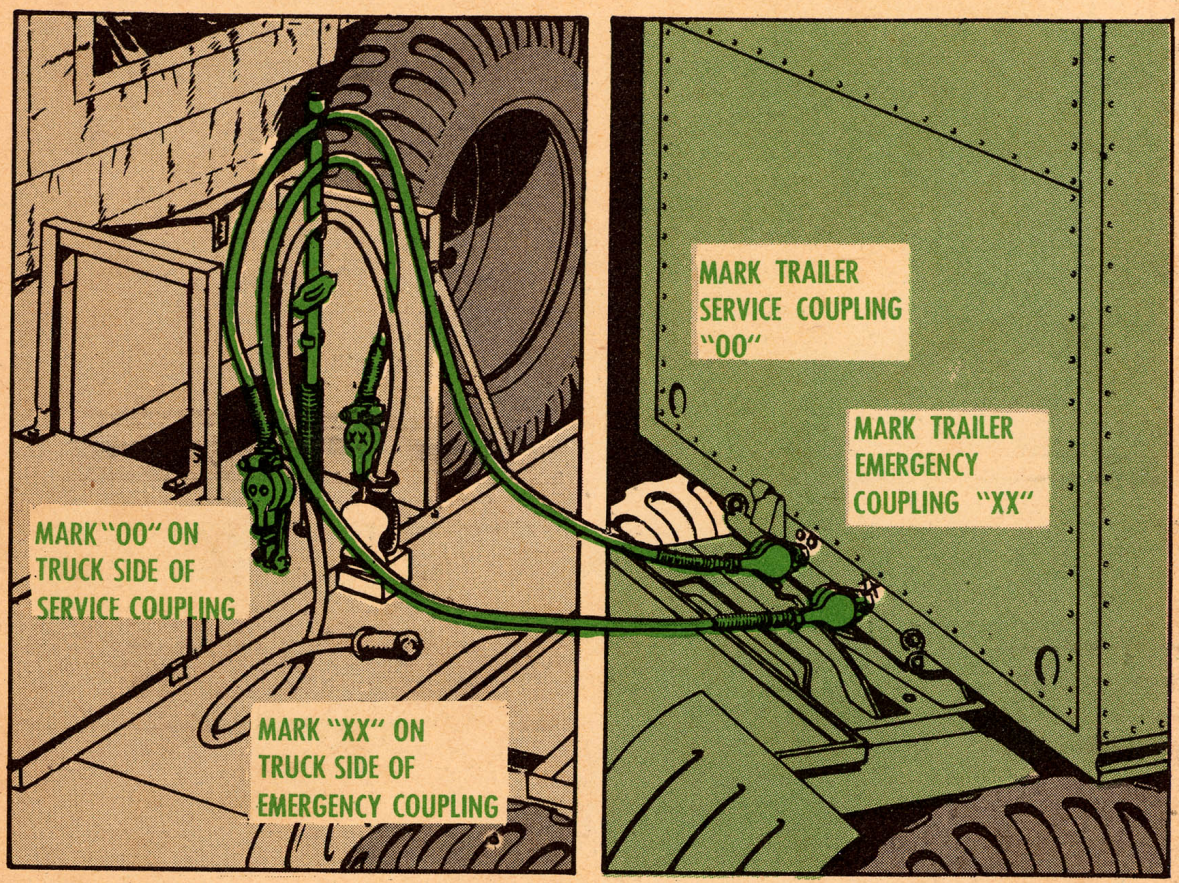
What we did was mark the braces with the words "Remove at Both Ends." Haven't had a bent brace since.

WO Lester J. Griffith
Derwood, Md.

Dear Editor,

When you get a lot of new recruits in an outfit like this, you always get some mixup before they start learning. To sorta stop this and keep our wheels rolling, we thought up this idea to get our fledgling drivers to put the correct trailer brake hose on the right connection on the truck.

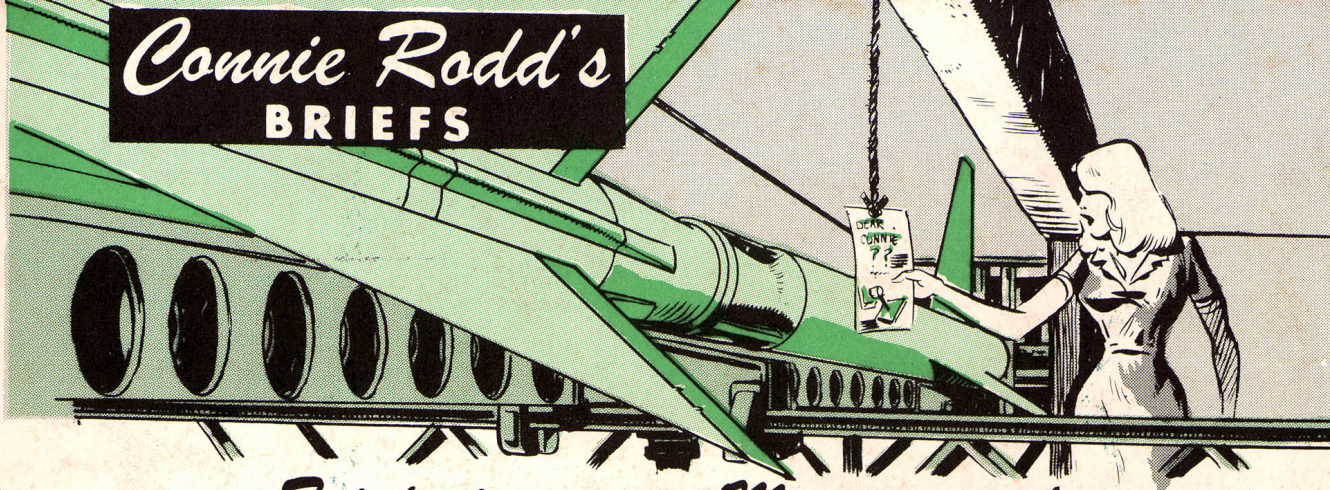
All we did—and this was for training purposes—was to mark the connections on the emergency side with an "XX" and the connections on the service side "OO" on both the truck and trailer connections. The matching marks did the trick—no more trailers leaving the motor park scraping their wheels—just match up the markings.



Sure hope other guys can use this idea—it saves a lot of sweat and a lot of rubber.

CWO E. F. Crary
National Guard
North Carolina

(Ed Note—That's solving a problem.)



Top tarp

It's not amusing, confusing the top cover assembly for the M170 ¼-ton ambulance with the top cover for the M38A1 Jeep. The ambulance tarp is a bit longer and has a zipper on the rear curtain . . . it takes FSN 2540-512-9141. The M38A1 Jeep top tarp comes to you under FSN 2510-040-2558.

Right gimmick, wrong gun

The M6 blank firing attachment is used with the M1919A4 and A4E1 .30-cal machine guns—thass all. In other words, it just isn't made for using with the .50-cal machine gun. So . . . when you write FSN1005-040-2888 on the requisition form, make sure you have the 1919A4 and A4E1 in mind.

Dampener

You wanna get something done which'll dampen a lot of that radiator vibration in your G749-series 2½-ton trucks, and also help stop those radiator baffles from fracturing? Get your second echelon shop to put MWO Ord G749-W39 (21 Feb 57) on your truck. It tells them how to make and put two rubber cushion washers on those baffles to help stop this sorta stuff.

Maintenance learning

Looking for a list of courses on maintenance that you might want to attend? Look no further than DA Pamphlet 20-21, "The Army School Catalog," with Changes 1-7. It gives 'em all.

Rolling rolls

You might remind your support unit that MWO Ord D38-W22 is important to your M2A2 90-mm gun and its M20 combination fuze-setter-rammer. The "urgent" MWO installs a breech rammer interlock to prevent the ramming rolls from turning when the breechlock is closed. Changes 1 to the same MWO gives the M2A1 gun the same fix.

The bellcrank's ringing

You can now do something positive to stop that steering bellcrank pivot shaft from becoming loose on your M38, M38A1 and M170 vehicles. MWO Ord G1-W85 (22 Mar 57) gives your Ordnance support the go-ahead on drilling a hole in the pivot shaft and putting a slotted hex nut (FSN 5310-050-3434) and a cotter pin (Ord Stock No. H101-0137204) on that bellcrank. Why not drop over and see when they can do the job for you?

Get that UER (DA Form 468) off to the chief of the Technical Service that's responsible for the equipment. The UER'll do the job. AR 700-38 gives you all the dope.